

YYC Update

YYC presentation to the Calgary Airport Authority Community Consultative Committee (ACCC)

September 21 | 2023

YYC CALGARY
AIRPORT
AUTHORITY

Agenda

- **Welcome**
- **Land acknowledgment**
- **YYC Executive Update**
- **YYC Operations Update**
- **West Runway Rehabilitation Update**
- **NAV Canada Update**
- **Environment, Sustainability & Governance**
- **STARS Presentation**
- **Round-Table Discussion**



In the spirit of respect, reciprocity and truth, we honour our ancestors and those who took care of this land long before we were here by acknowledging the Treaty 7 territory of the Blackfoot confederacy.

This includes the Siksika, Kainai, Piikani peoples — as well as the Îyâxe Nakoda, and Tsuut'ina nations. This territory is also home to the Métis Nation of Alberta, Region 3.

We embrace the role of helping to protect the space and foster the growth and development of the peoples – both the Indigenous and non-Indigenous - who live, work, and play on these lands.



Executive Update

Chris Dinsdale
President & CEO



Executive Update

Kirstan Jewell
Vice President of Talent,
Organization & Chief People
Officer



Executive Update

Chris Miles
Chief Operating Officer



Executive Update

Megan Gupton
Chief Information Officer



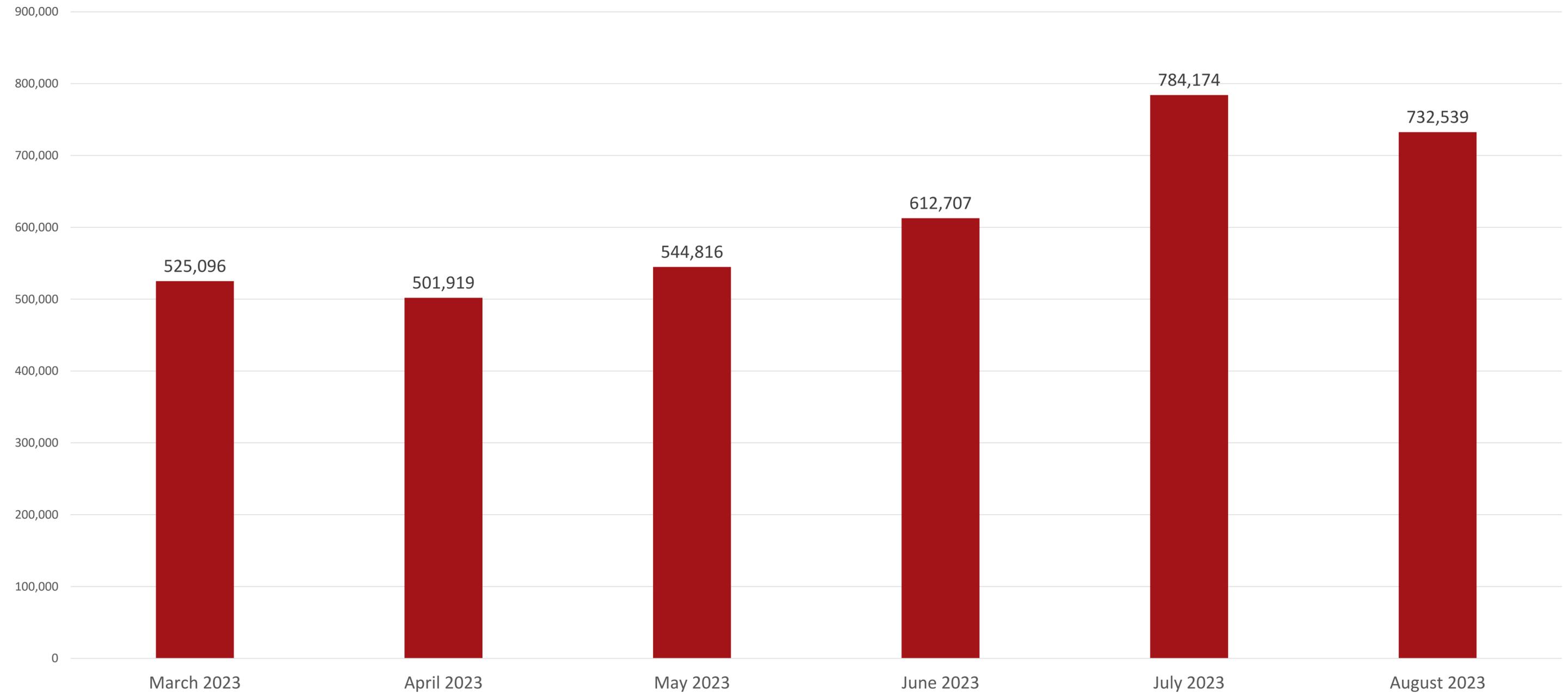


March - August YYC Update

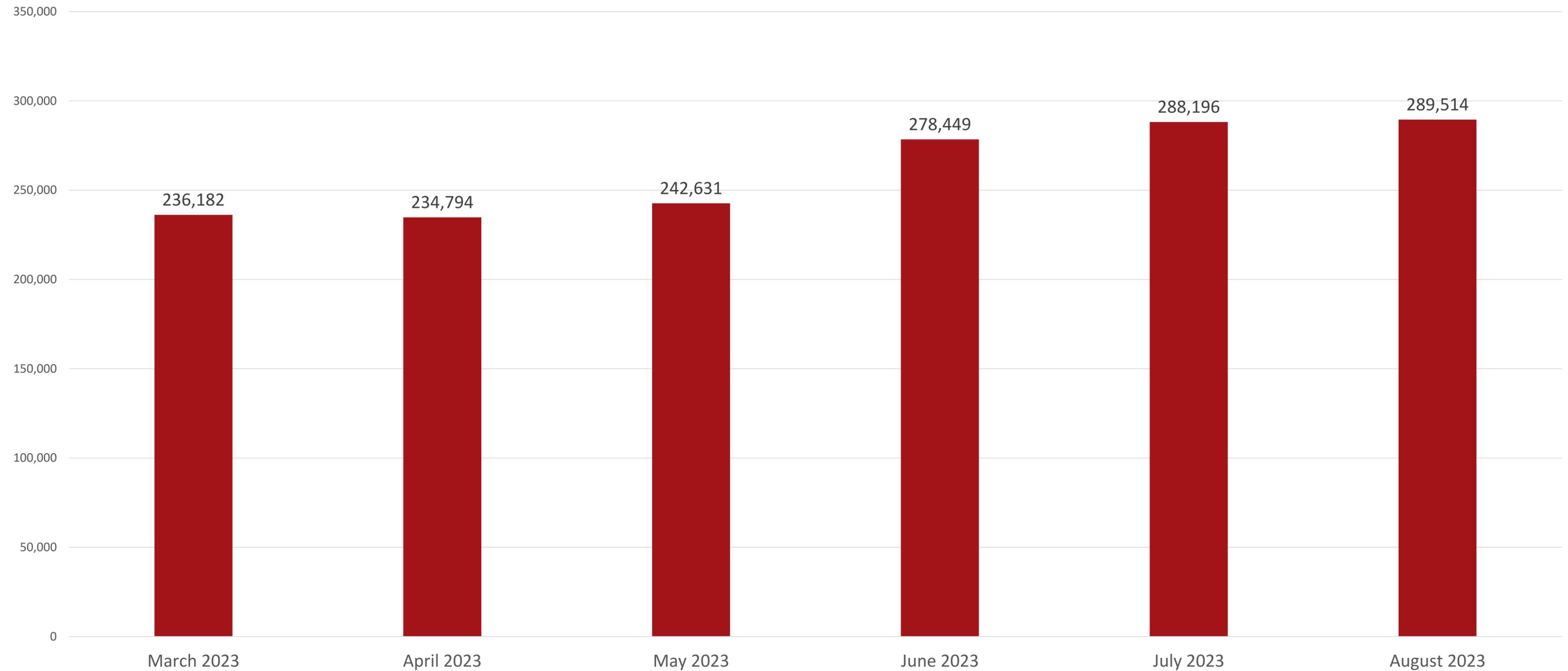
- Andy Davis, Senior Director, Terminal Operations



YYC-Originating Passengers (previous 6 months)



International and Transborder Traffic (previous 6 months)



West Runway Rehabilitation Project Update

Airport Community Consultative Committee

September 21 | 2023

1. Project Recap
2. Final Runway Design
3. Runway Availability
 - 2024 Construction (Phases 1-4)
4. Next Steps
5. Questions

AGENDA

HIGH LEVEL PROJECT OVERVIEW





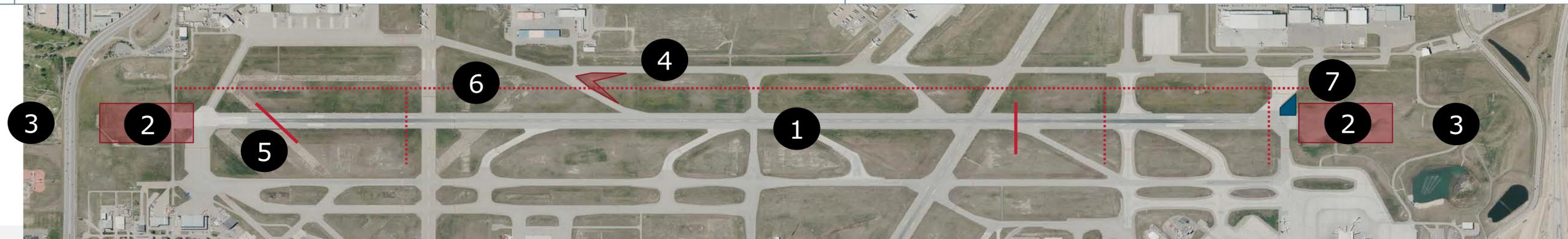
PROJECT UPDATE:

- The design and construction phasing for the project is now complete
- A Construction Manager has been selected through a competitive RFP process
- The Project will maintain a 2-year Construction Schedule (2024 & 2025)
- Rehabilitation of the West Runway remains a top priority for the Calgary Airport Authority

Key objective throughout this project is to ensure we are providing transparent and timely communication.

FINAL DESIGN

	Scope Item	Benefit
1	60m Wide Asphalt Runway with 7.5m Shoulders & Concrete Thresholds	<ul style="list-style-type: none"> • Rehabilitated Asset • Efficient Snow Removal
2	300m Runway End Safety Areas	<ul style="list-style-type: none"> • Safety • Compliance
3	Category II Approaches	<ul style="list-style-type: none"> • Reduced Visibility Operations • Redundancy
4	Taxiway A3 Widening	<ul style="list-style-type: none"> • Upgrade to AGN VI
5	Future Provisions for Climate Resilience	<ul style="list-style-type: none"> • Avoid Future Runway Excavations • Alignment with YYC Sustainability Goals
6	Spare Communications Duct Banks	<ul style="list-style-type: none"> • Allow for Future Technology Upgrades • Avoid Future Runway Closures
7	Taxiway A Realignment	<ul style="list-style-type: none"> • Realign Taxiway A Centreline to match Taxiway C Centreline

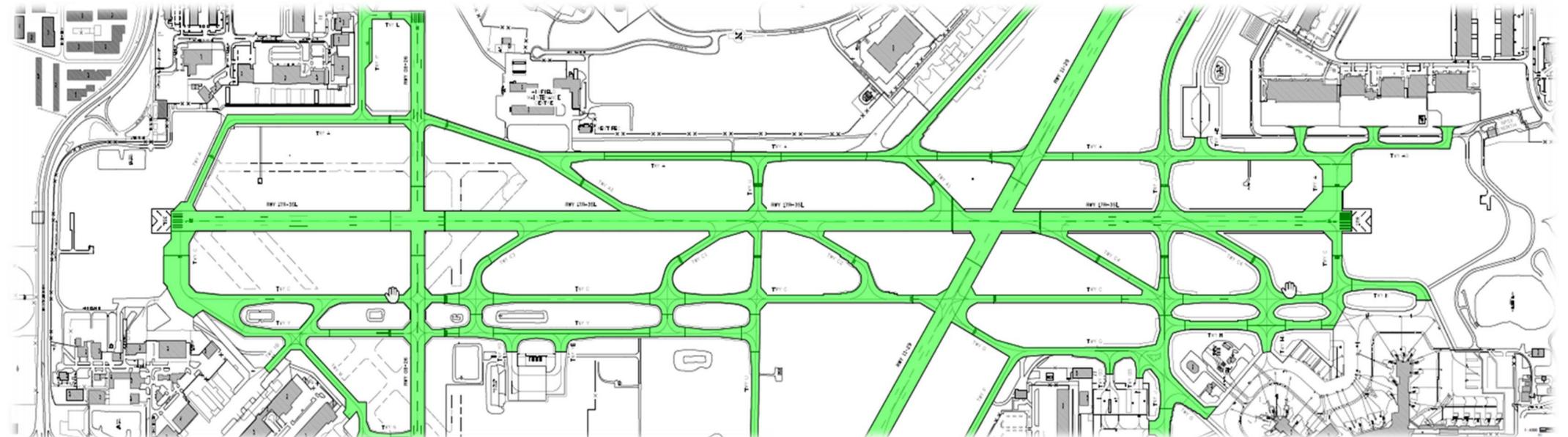


PRINCIPLES FOR REVISED PHASING PLAN

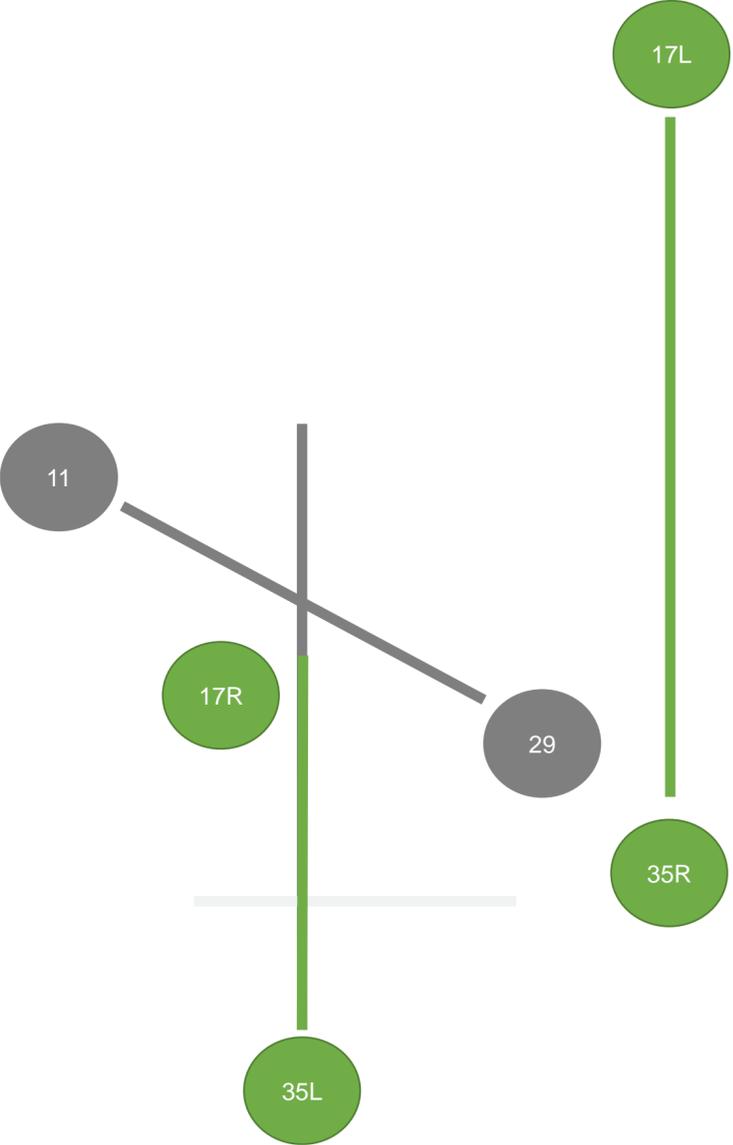
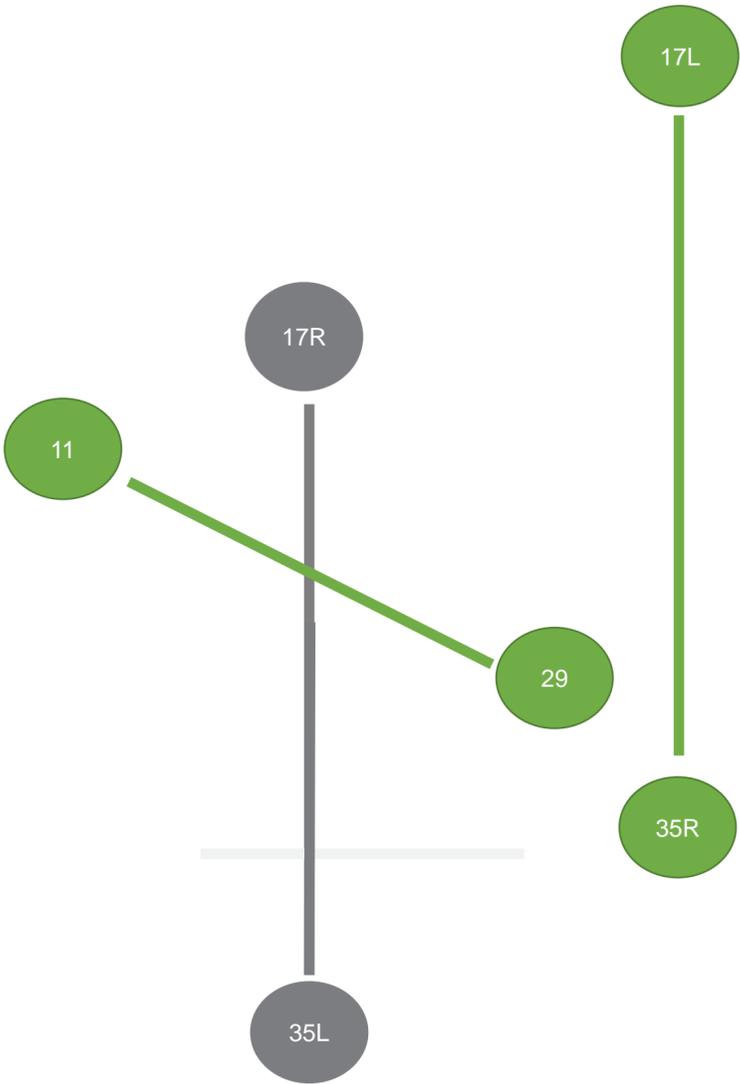
The Project will maintain a **2-year** Construction Schedule (2024 & 2025)

2 runways will be available in each phase of construction

2 crossings will be available during each phase - 1 on the north end, 1 on the south

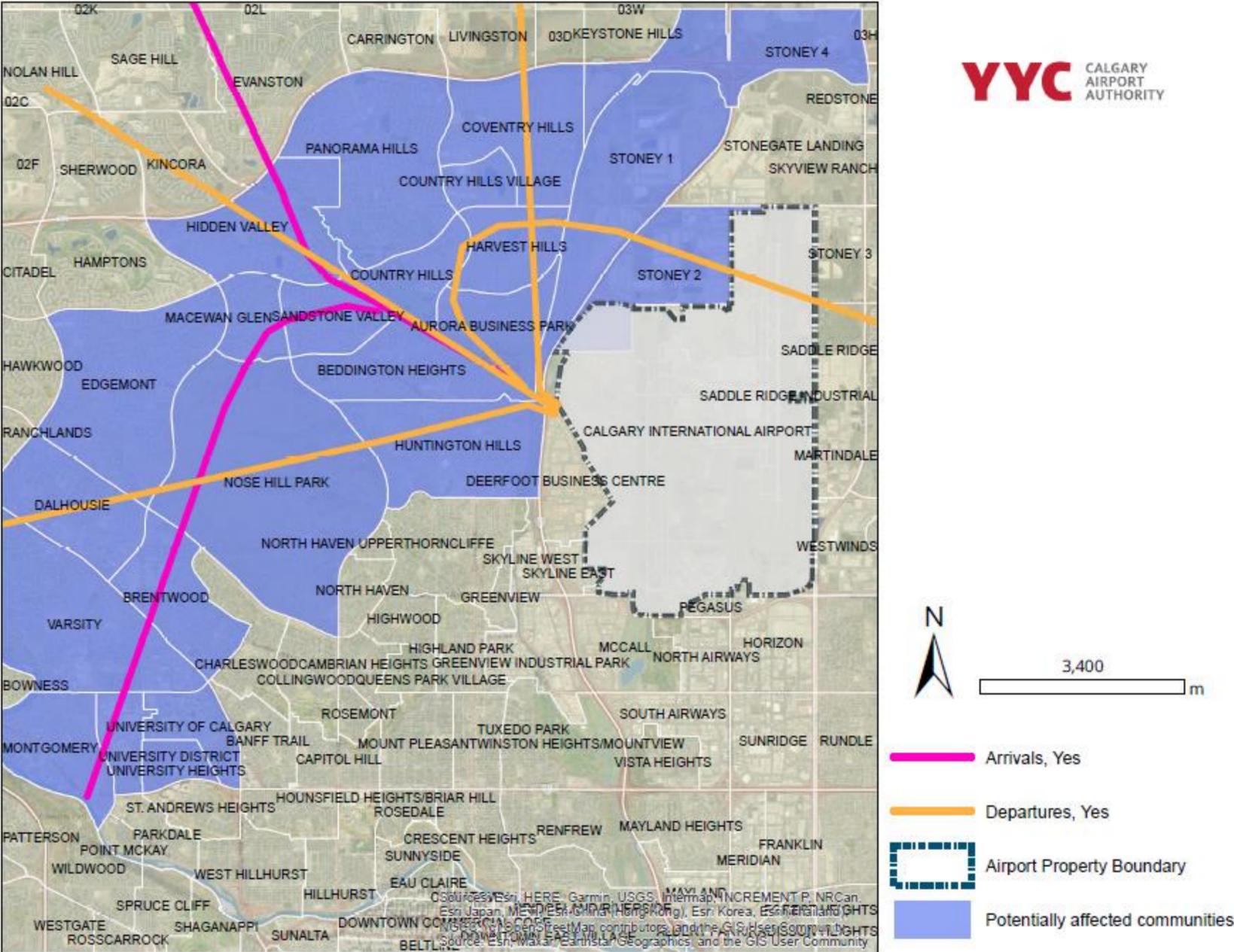


WHICH RUNWAY CLOSURES WILL BE NECESSARY?



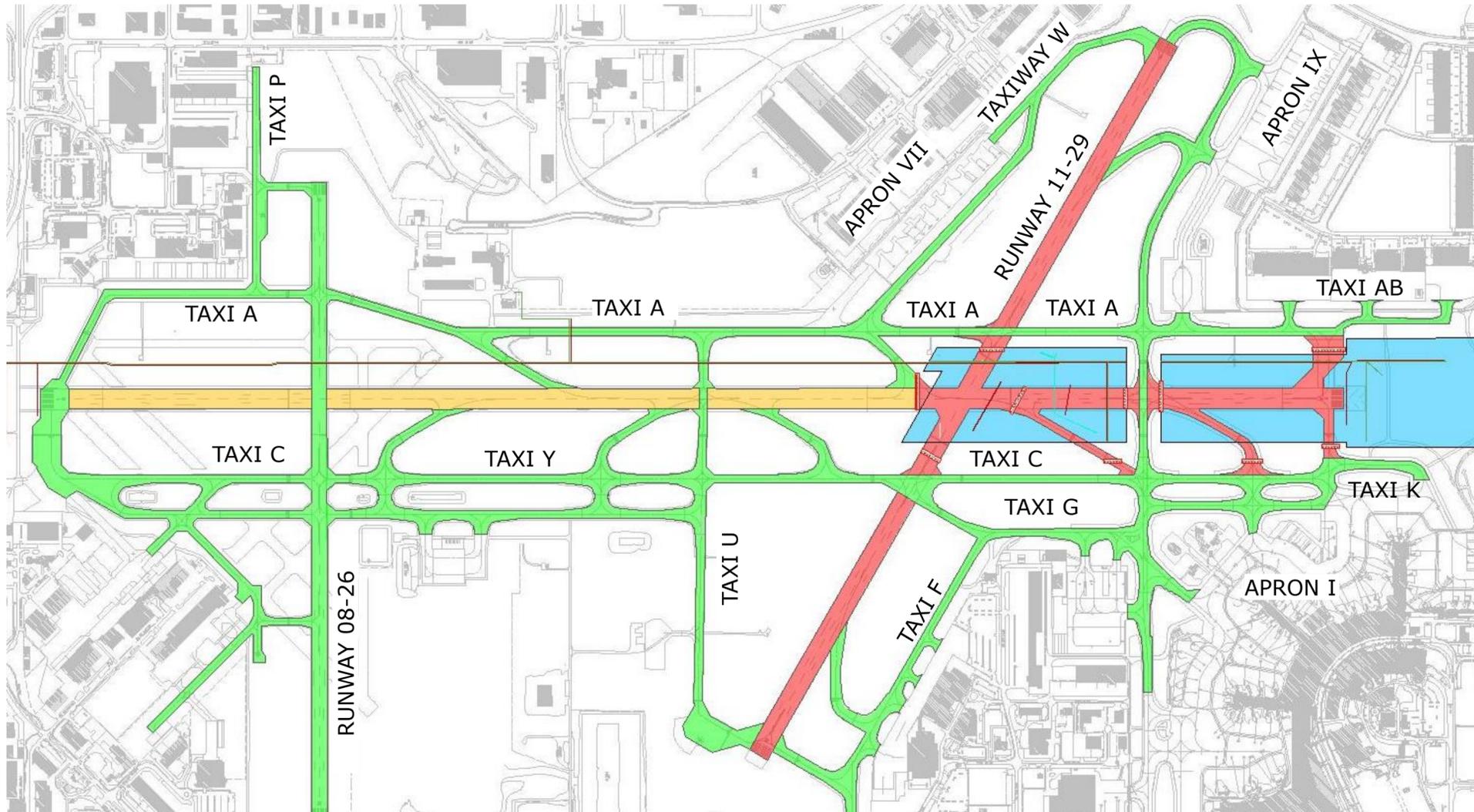
WHAT ARE THE POTENTIAL IMPACTS TO NEIGHBOURING COMMUNITIES?

- Throughout this project, there will be increased use of the crosswind runway that places aircraft over parts of northwest Calgary and southeast Calgary.
- During peak construction times, those communities may experience higher volume of traffic overhead than previous summers.
- Monitoring tools will be in place to gather noise data during this time.

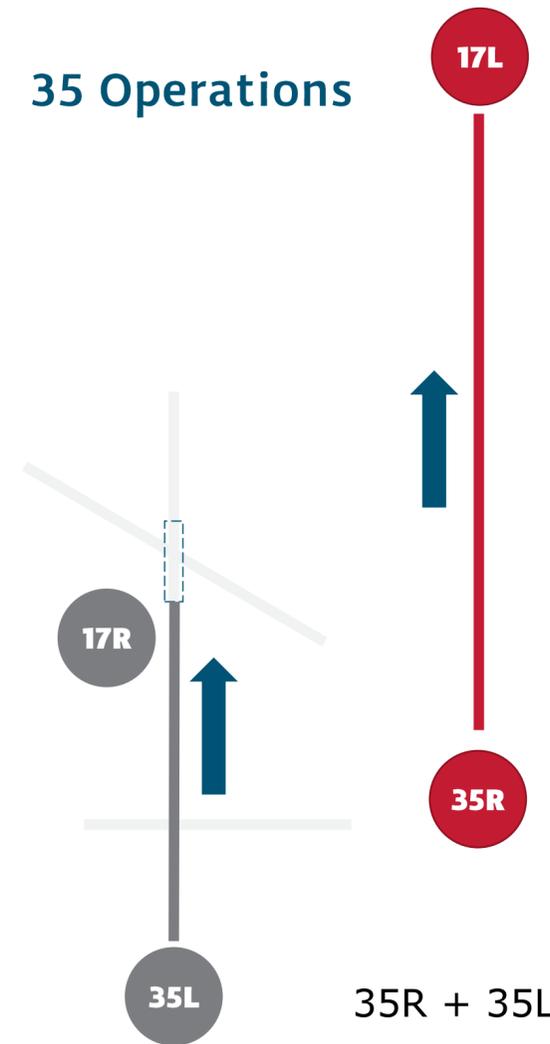


RUNWAY & TAXI AVAILABILITY | Phase 2

DURATION:
July to September 2024

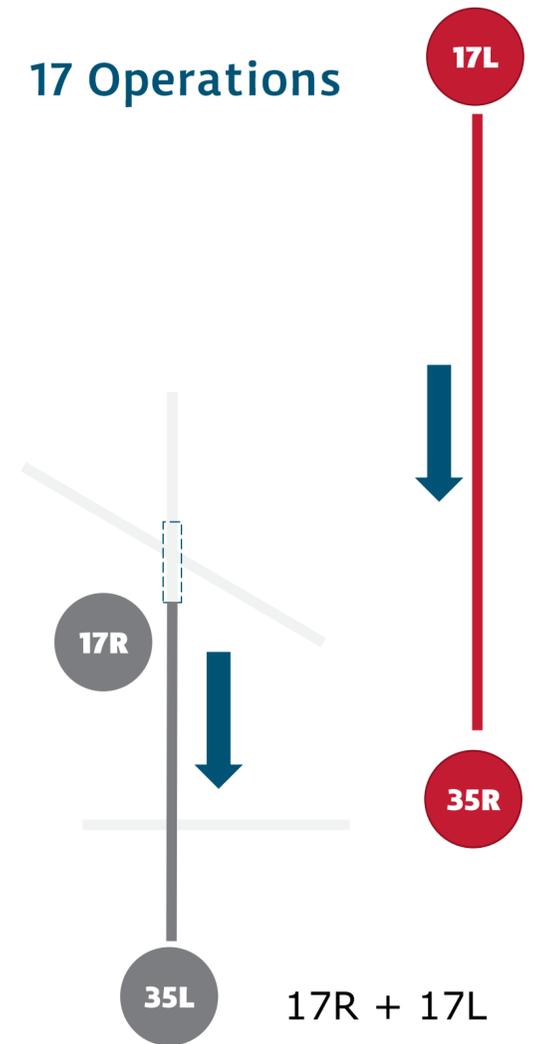


35 Operations



35R + 35L

17 Operations



17R + 17L

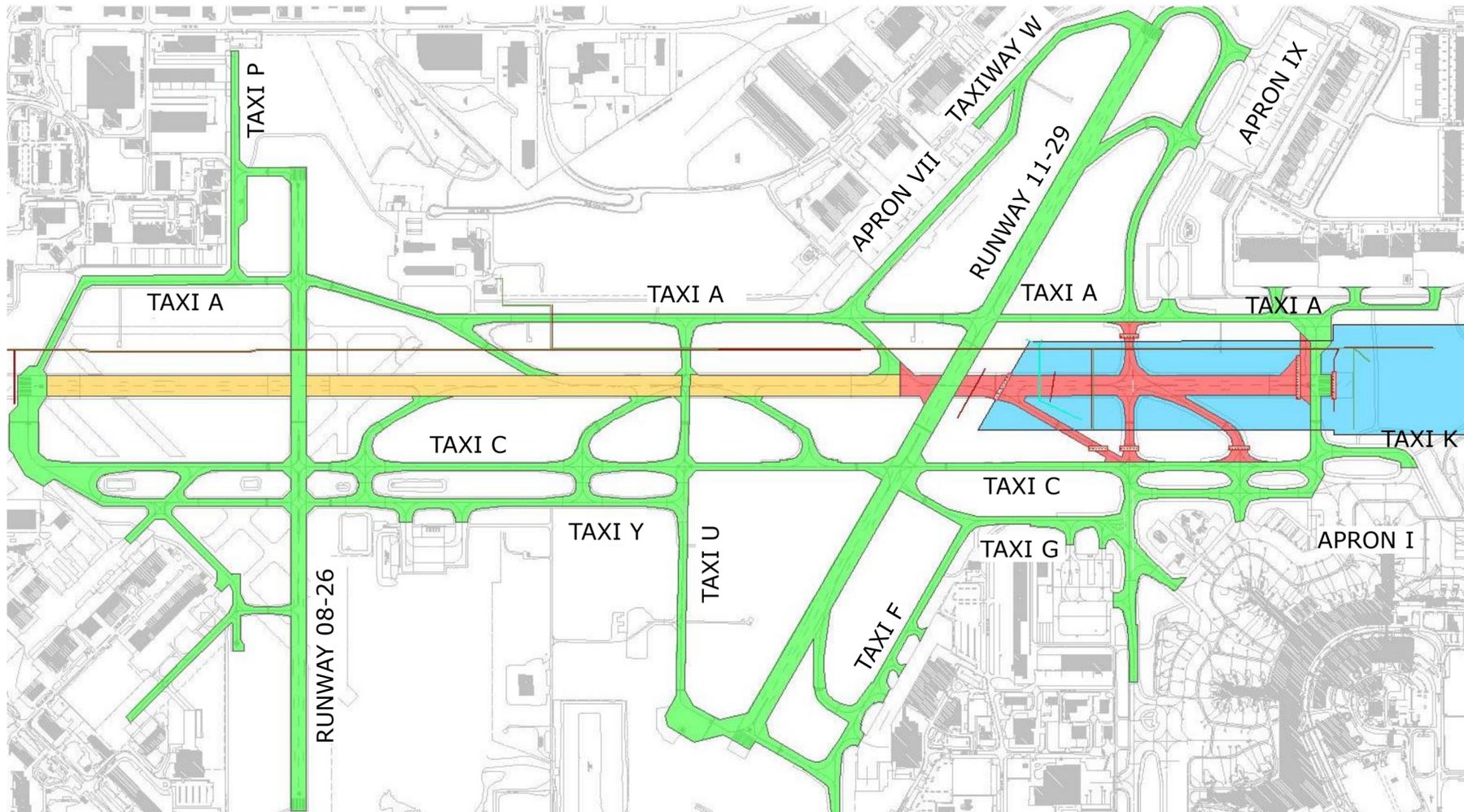
RUNWAY 17R-35L REDUCED LENGTH

RUNWAY 11-29 CLOSED

AVAILABLE RUNWAYS

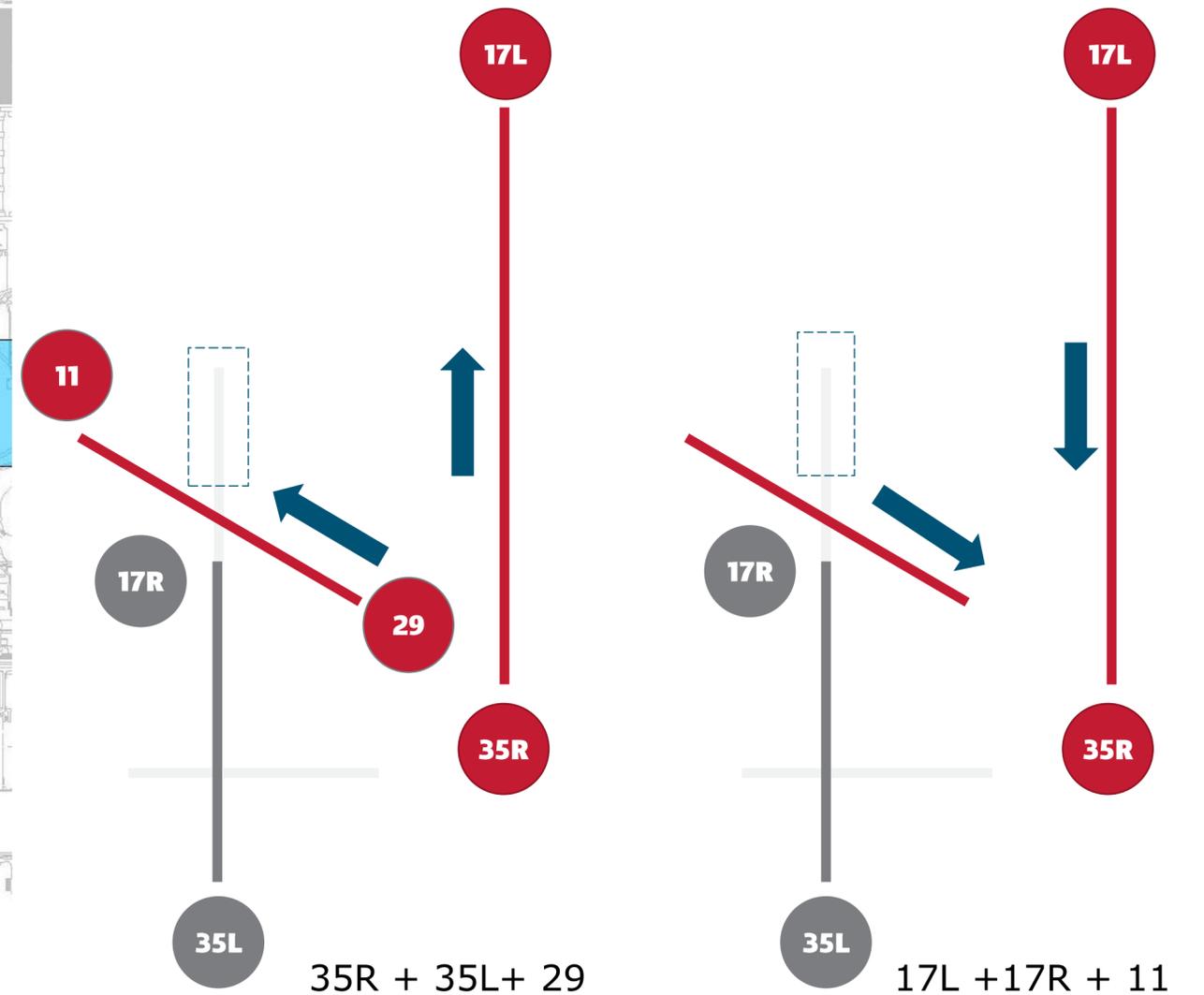
RUNWAY & TAXI AVAILABILITY | Phase 3 September to November 2024

DURATION:



RUNWAY 17R-35L REDUCED LENGTH

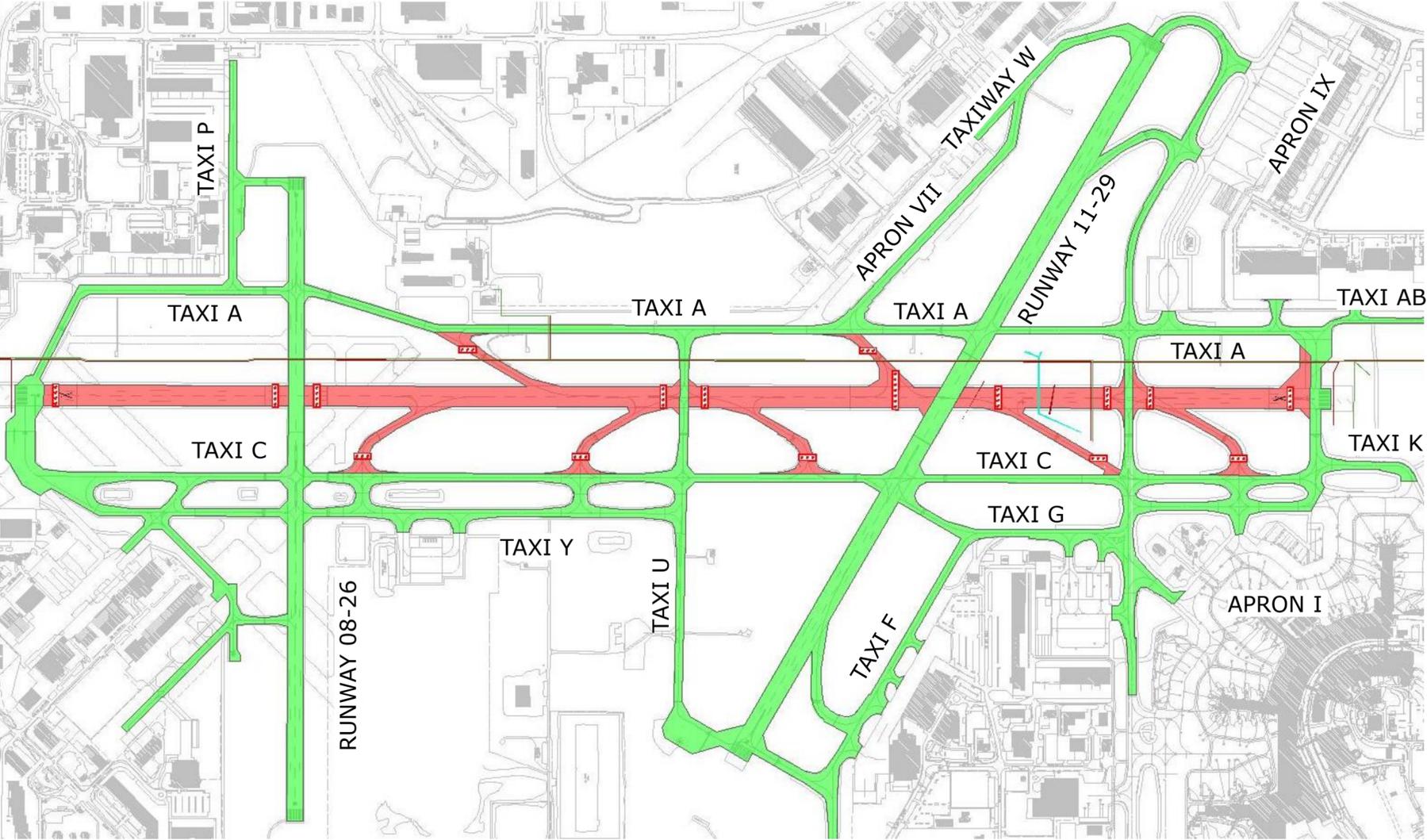
RUNWAY 11-29 OPEN



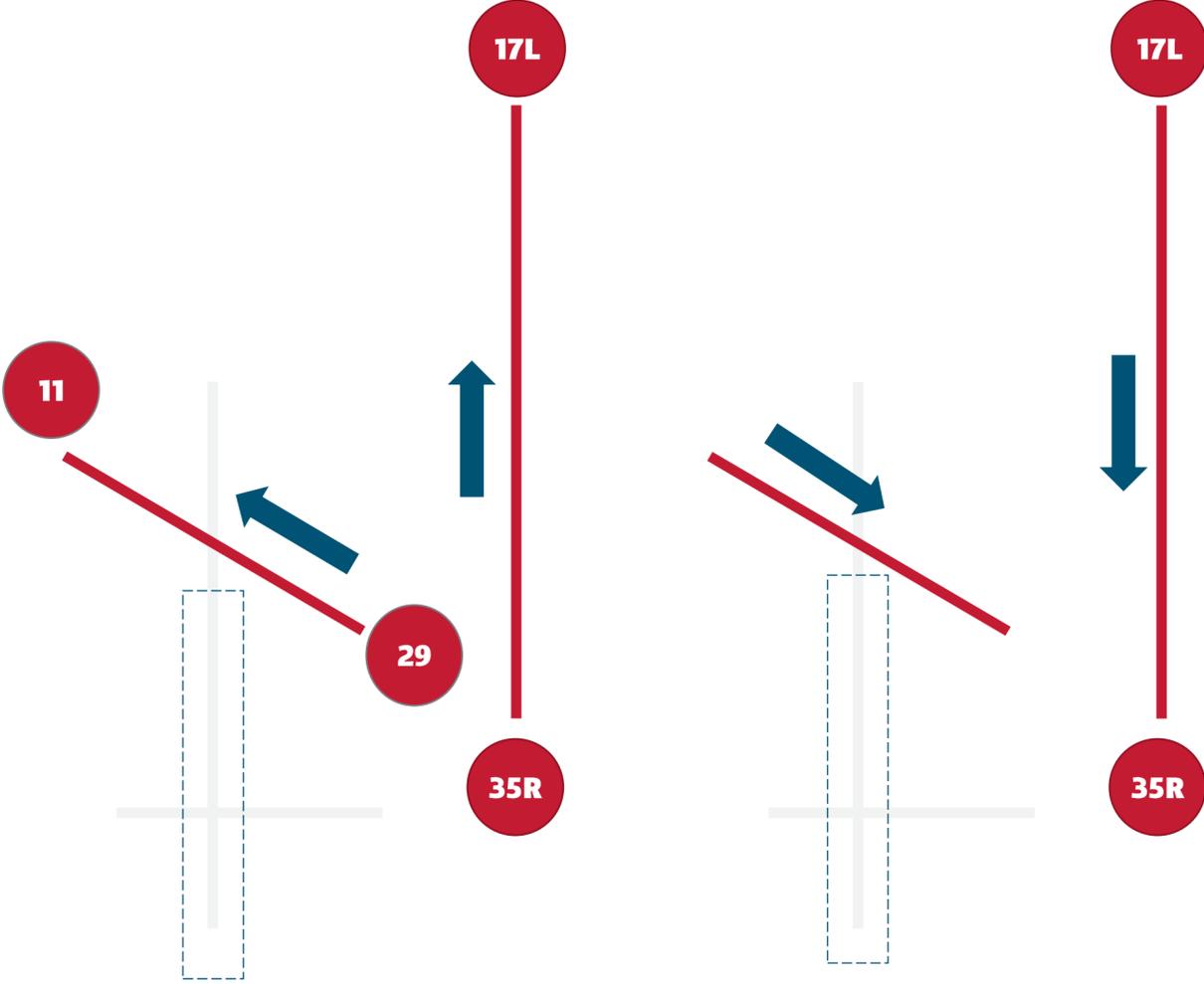
AVAILABLE RUNWAYS

RUNWAY & TAXI AVAILABILITY | Phase 4

DURATION:
November 2024



RUNWAY 17R-35L CLOSED
RUNWAY 11-29 OPEN



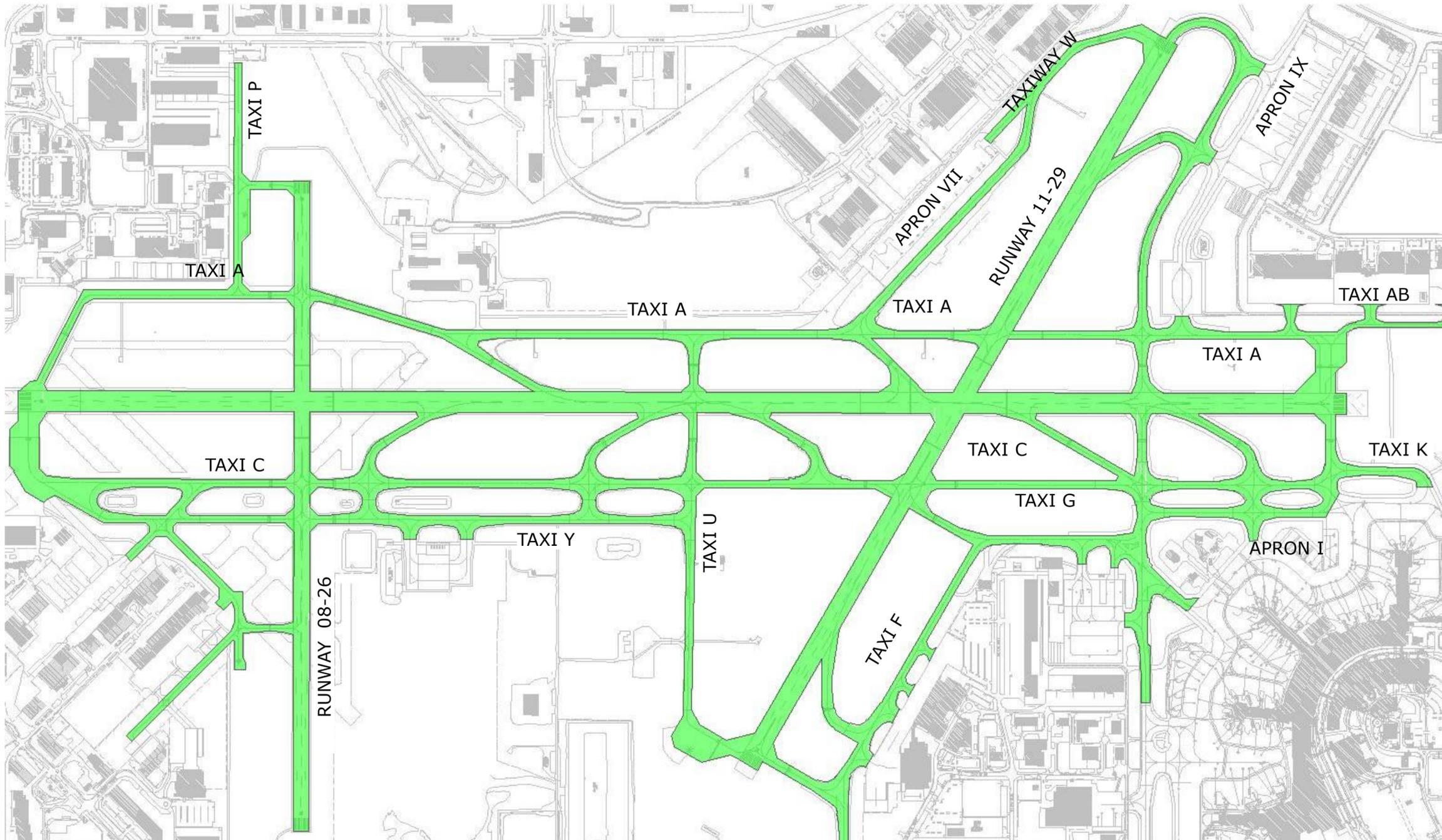
35R + 29

17L + 11

AVAILABLE RUNWAYS

RUNWAY & TAXI AVAILABILITY | Winter 2024/2025

DURATION:
December 2024 to
March 2025



**RUNWAY 17R-35L OPEN
(CAT I)**

RUNWAY 11-29 OPEN

**NO OPERATIONAL
IMPACTS**

NEXT STEPS

1. Ongoing Discussions with Nav Canada to address capacity constraints
2. Follow up with our Technical Subcommittee for endorsement of Phasing Plans (October)
3. Full Project Approval by the Board of Directors (November)





QUESTIONS?



NAV CANADA ► PROPRIETARY

NAV CANADA Update to ACCC September 21, 2023

Ian Giesbrecht

Manager, Stakeholder and
Community Engagement

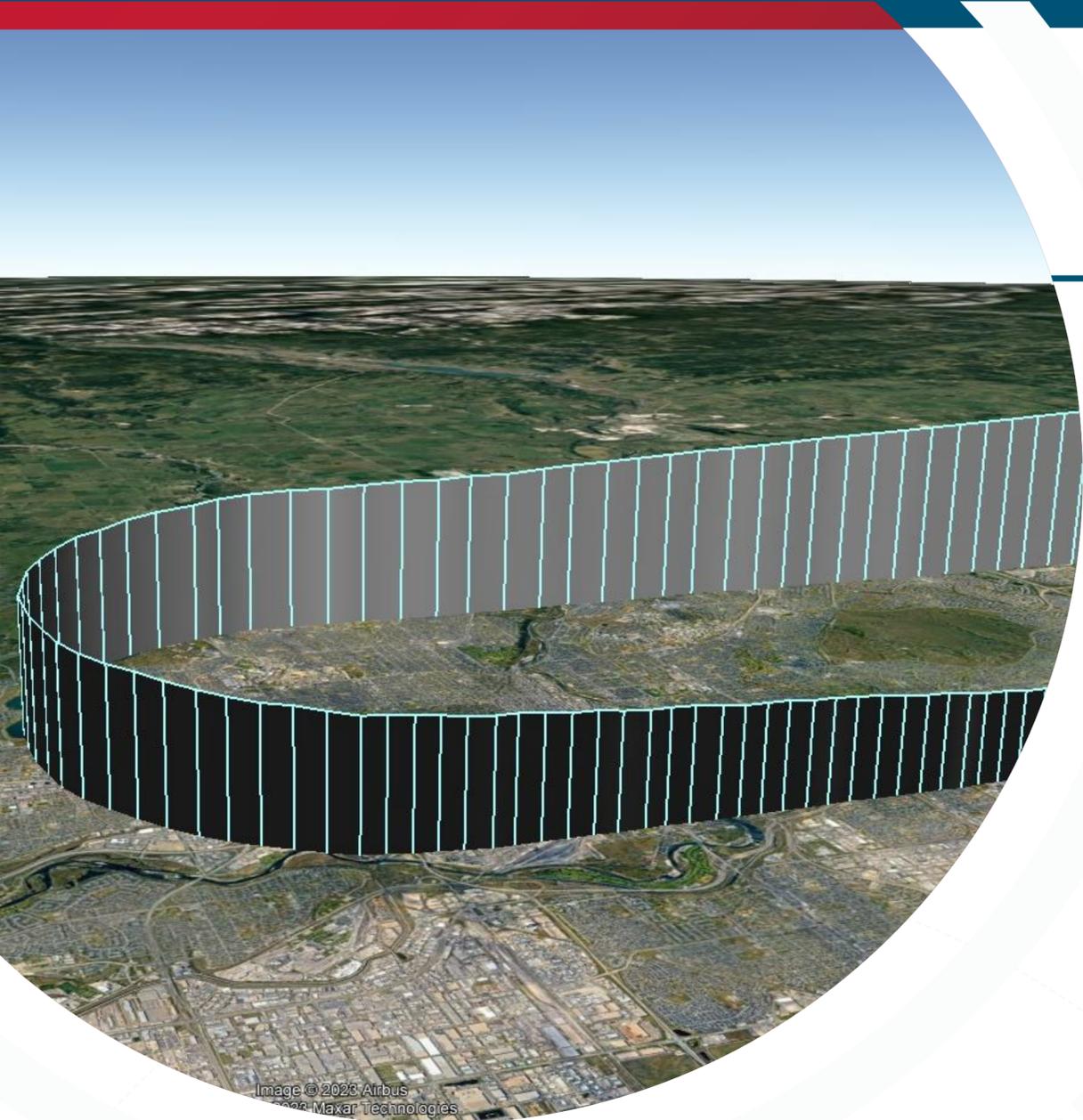


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Overview

-
- 1 • RNP-AR Refresher
 - 2 • Alternate Runway Headings
 - 3 • Questions / Discussion



RNP-AR

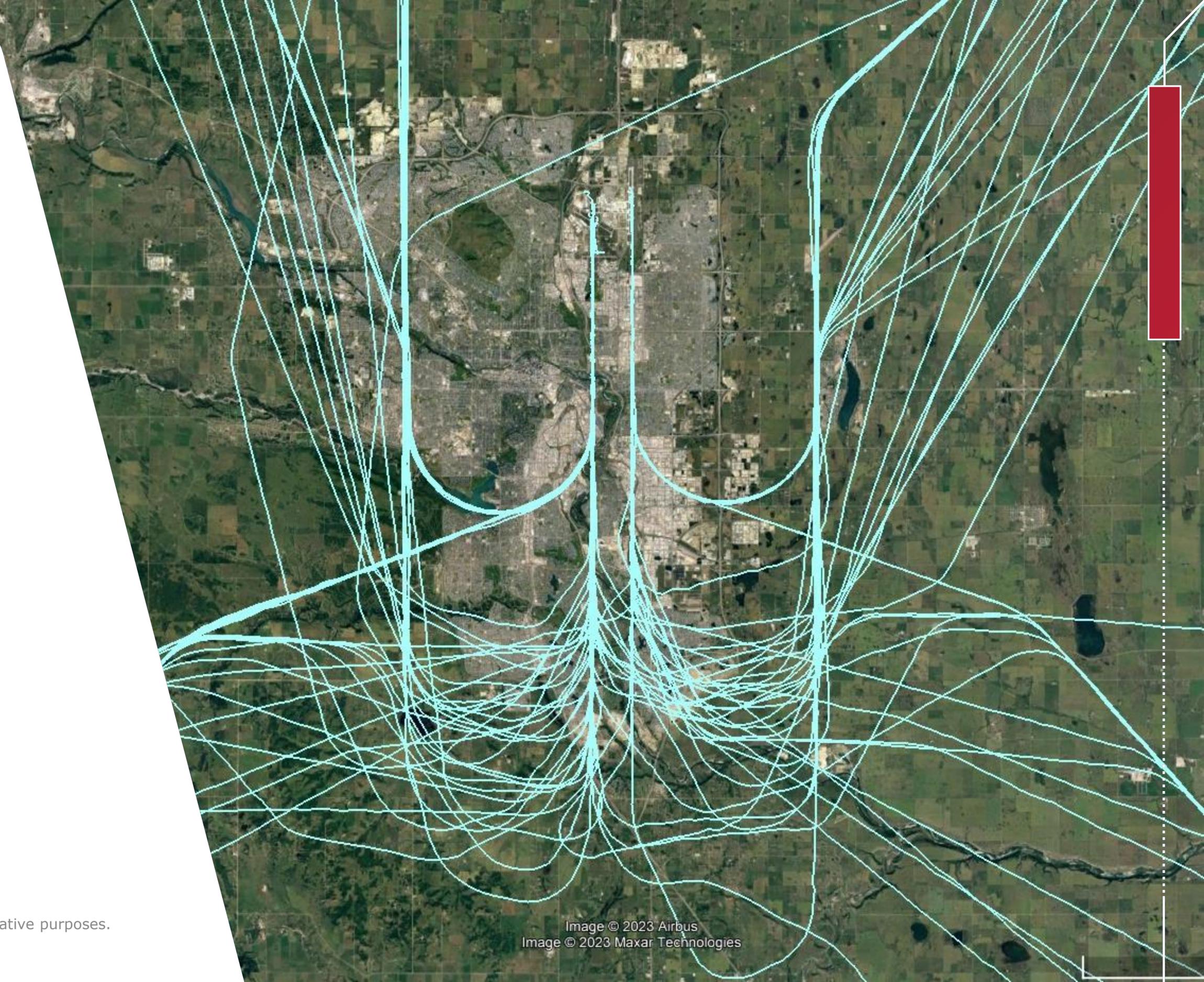
Required Navigation Performance – Authorization Required

- In use at YYC for many years
- First Airport in the world to leverage new ICAO standard
- Leverages modern FMS and satellite navigation
- Supports shorter routes, less emissions and continuous descent operations

Runway 35 Sample Data

- Arrivals during a recent busy 12-hour period
- A total of 270 arrivals
- 26 per cent utilization of RNP-AR procedures
- Utilization can vary day-to-day
- Equivalent procedures when in a north flow (using runways 17 R/L)

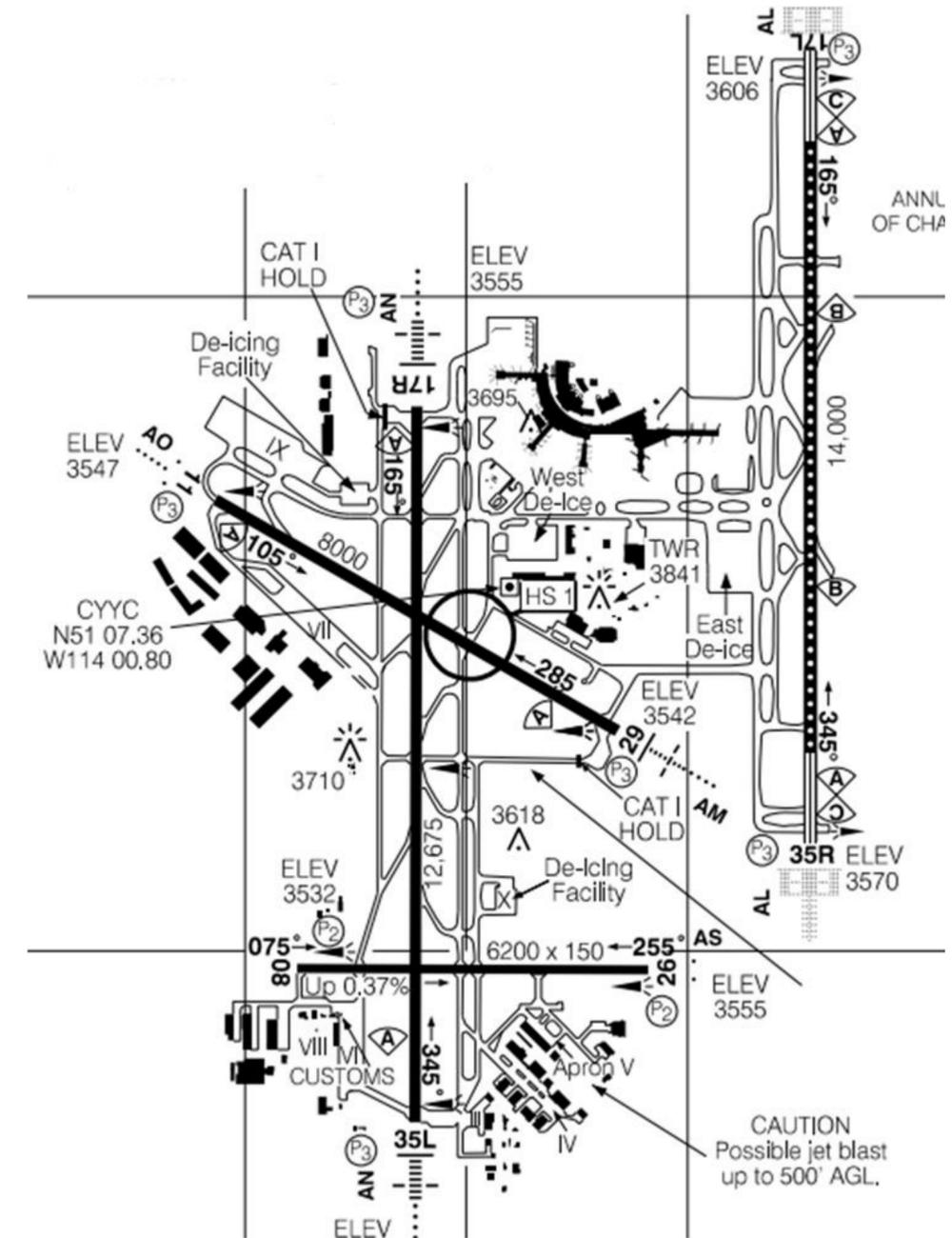
Note image shows shorter period. Limited data set for illustrative purposes.



Runway Selection at YYC

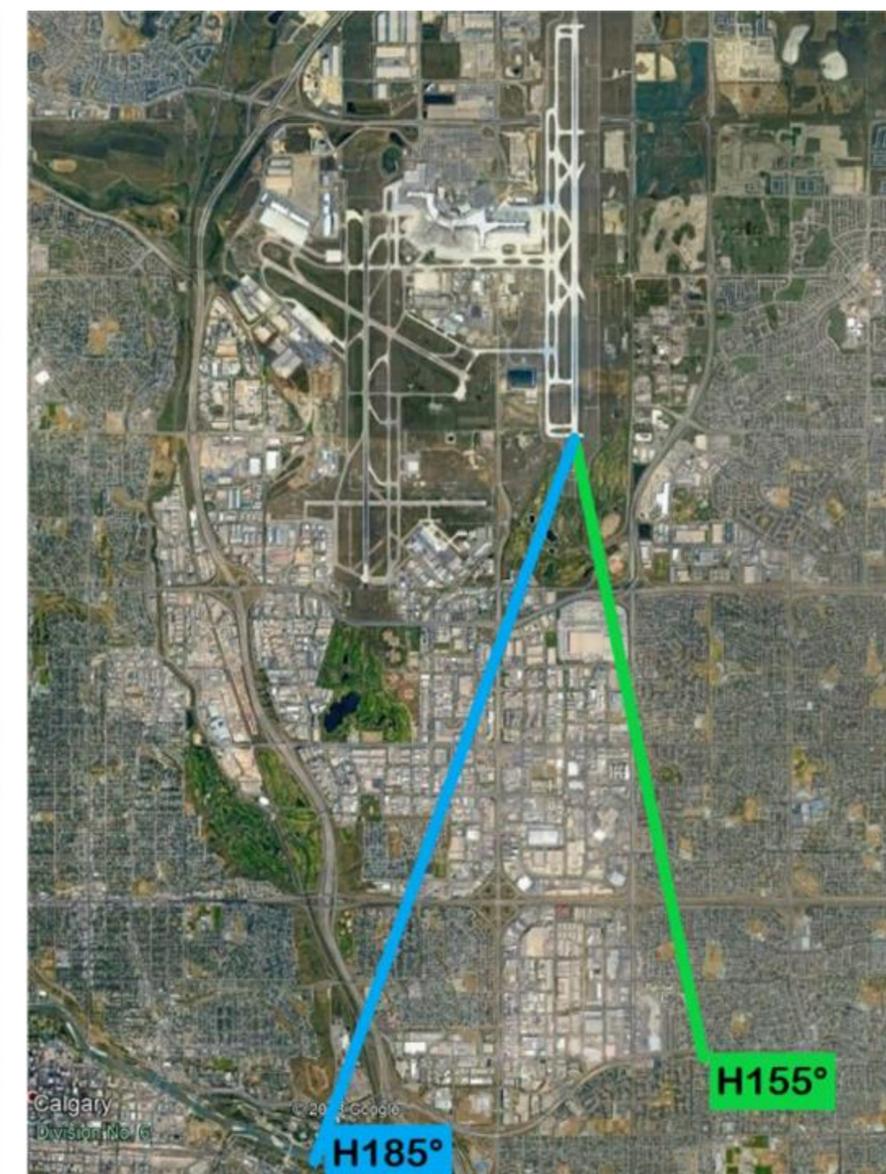
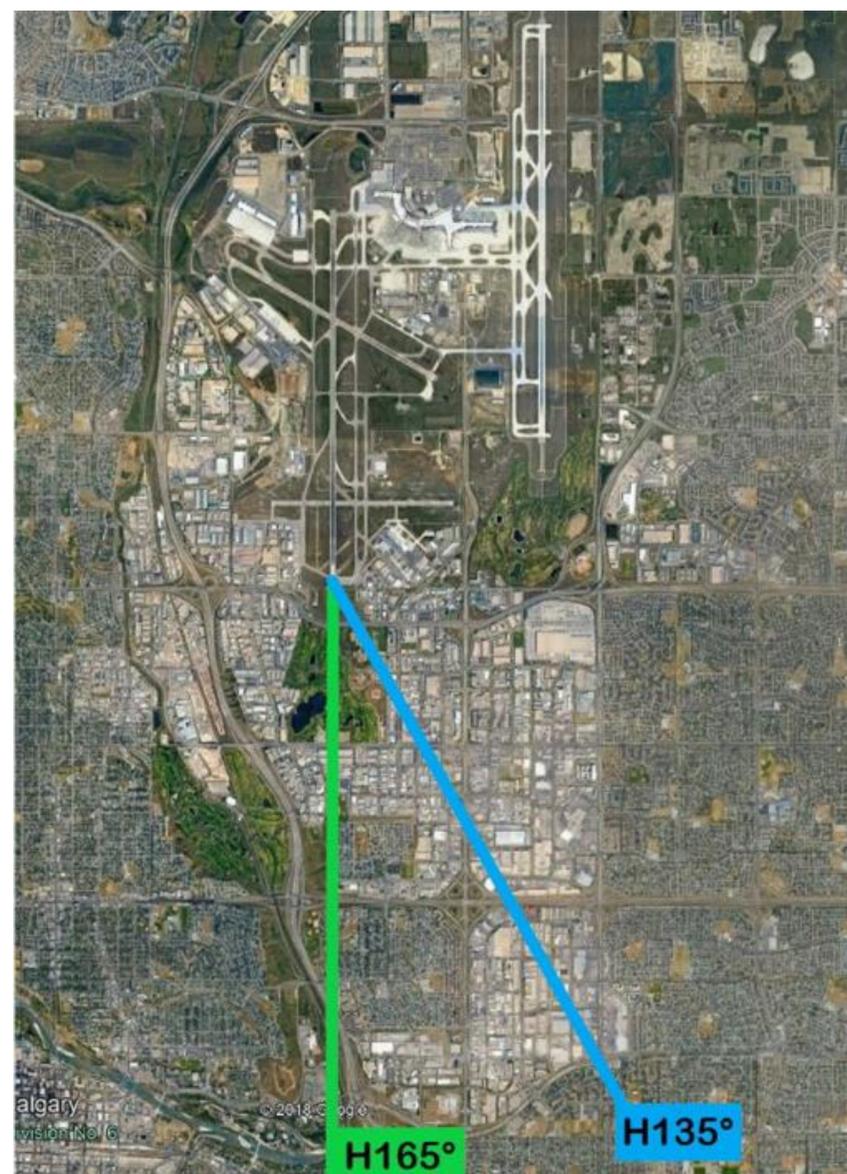
Considerations:

- Wind
- Runway conditions
- Pilot requests
- Operational Constraints



Alternate Runway Heading Initiative

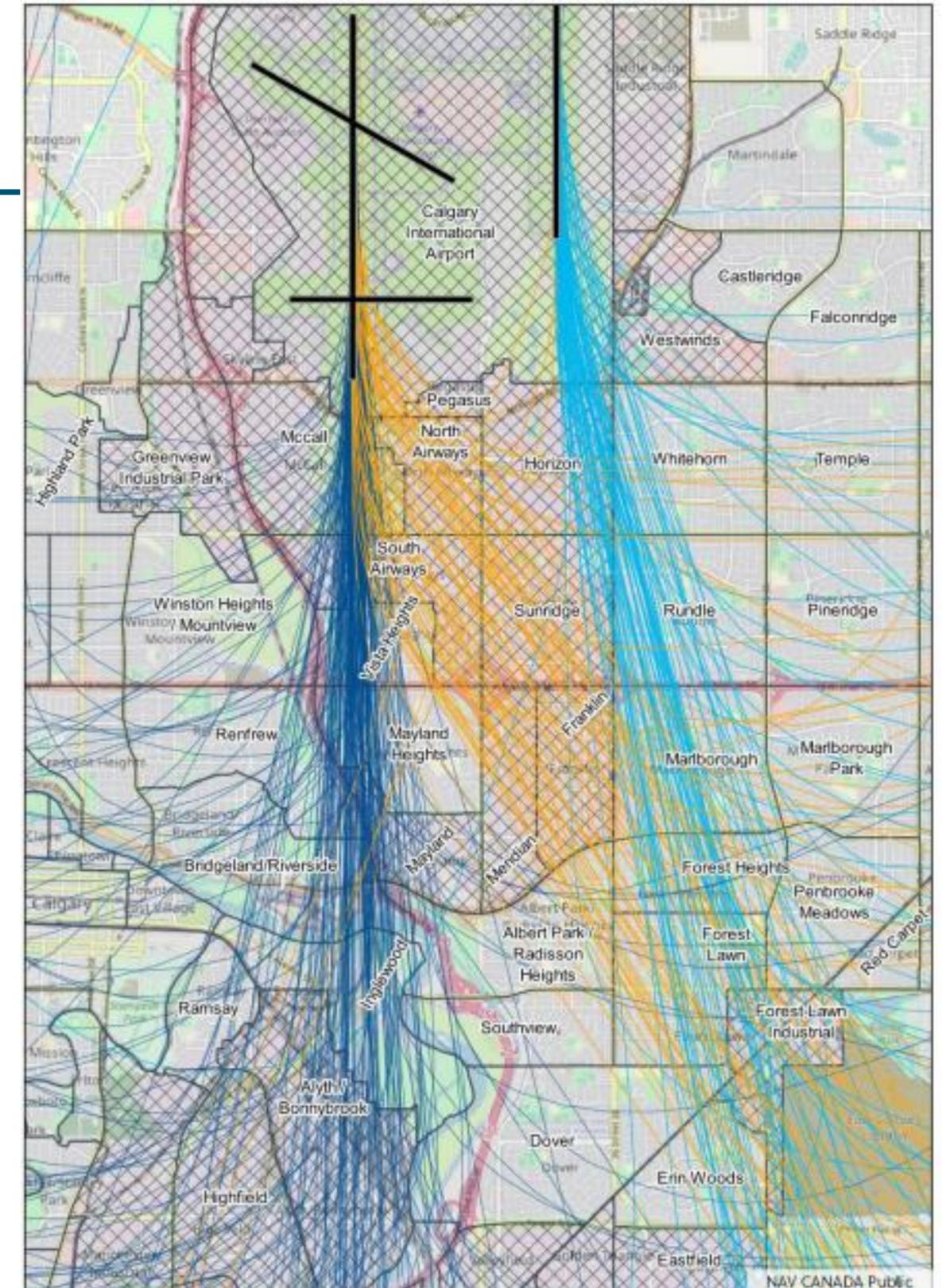
- Started as trial in late 2019; extended to garner more data
- Public Consultation conducted January-March 2022
- Recommendation to implement
- Adjustments made to the proposal flowing from consultation (alternate headings do not apply from 0000-0600 daily)



Runway	% on alternate headings (pre-trial estimate)	Actual % alternate headings (during trial)
17L	5-10%	3-11%
17R	30-50%	27-49%

Alternate Runway Heading Initiative

- Next step: Work has initiated on post-implementation review. Will include:
 - Noise data
 - Complaint data
 - Performance data
- Aim to discuss findings at next ACCC.





• Questions / Discussion

And Thank you!

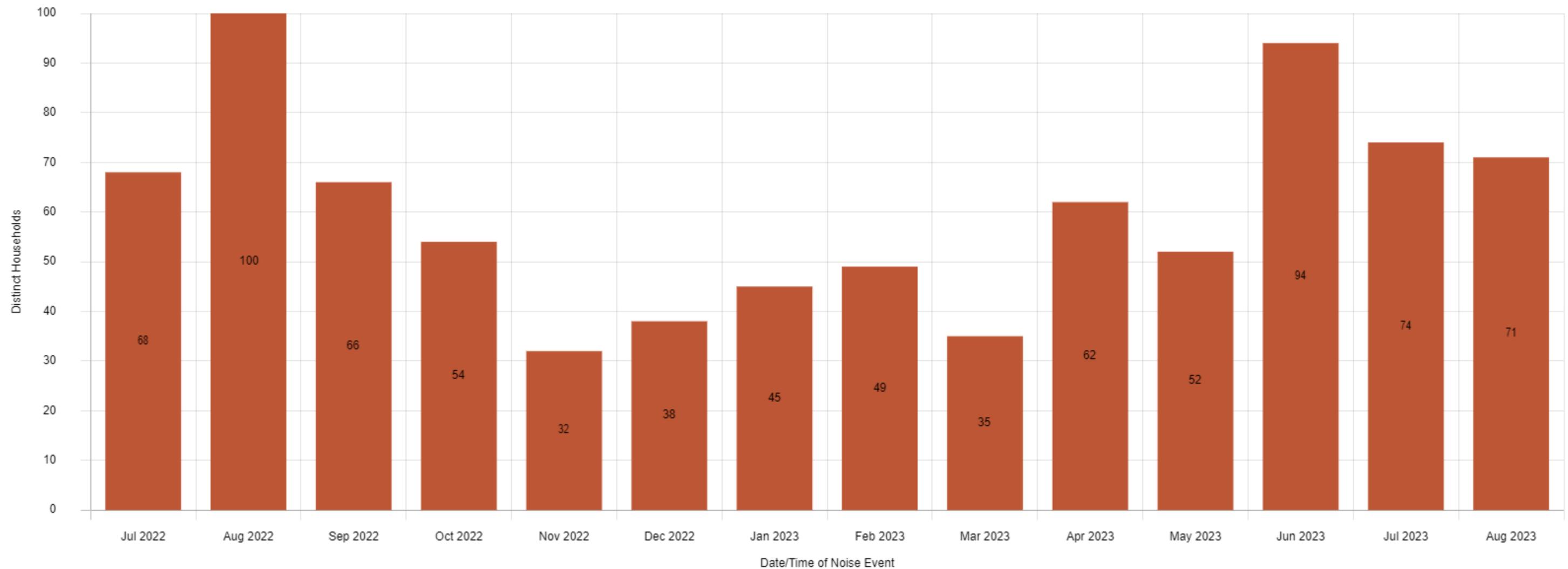
- Third level
 - Fourth level
 - Fifth level

ENVIRONMENT & SUSTAINABILITY UPDATE

Noise | Stormwater | Environmental
Performance

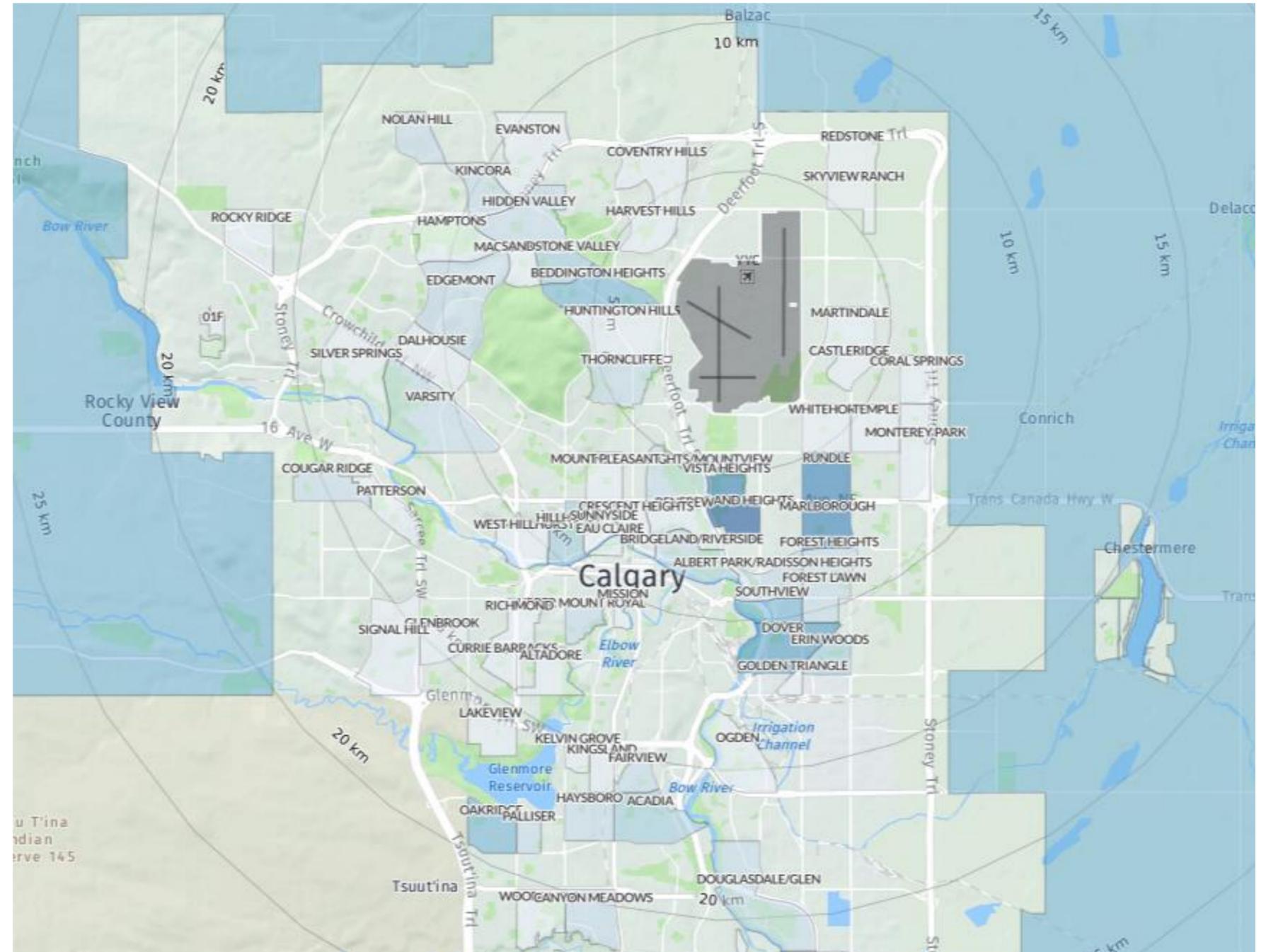
Aircraft Noise Management

- Summary of total households filing noise concerns filed for the previous 13 months.
- Consistent seasonal trend of elevated concerns during summer months when traffic is increased, more residents are outdoors, and single runway usage is more frequent due to construction and maintenance.



Aircraft Noise Management

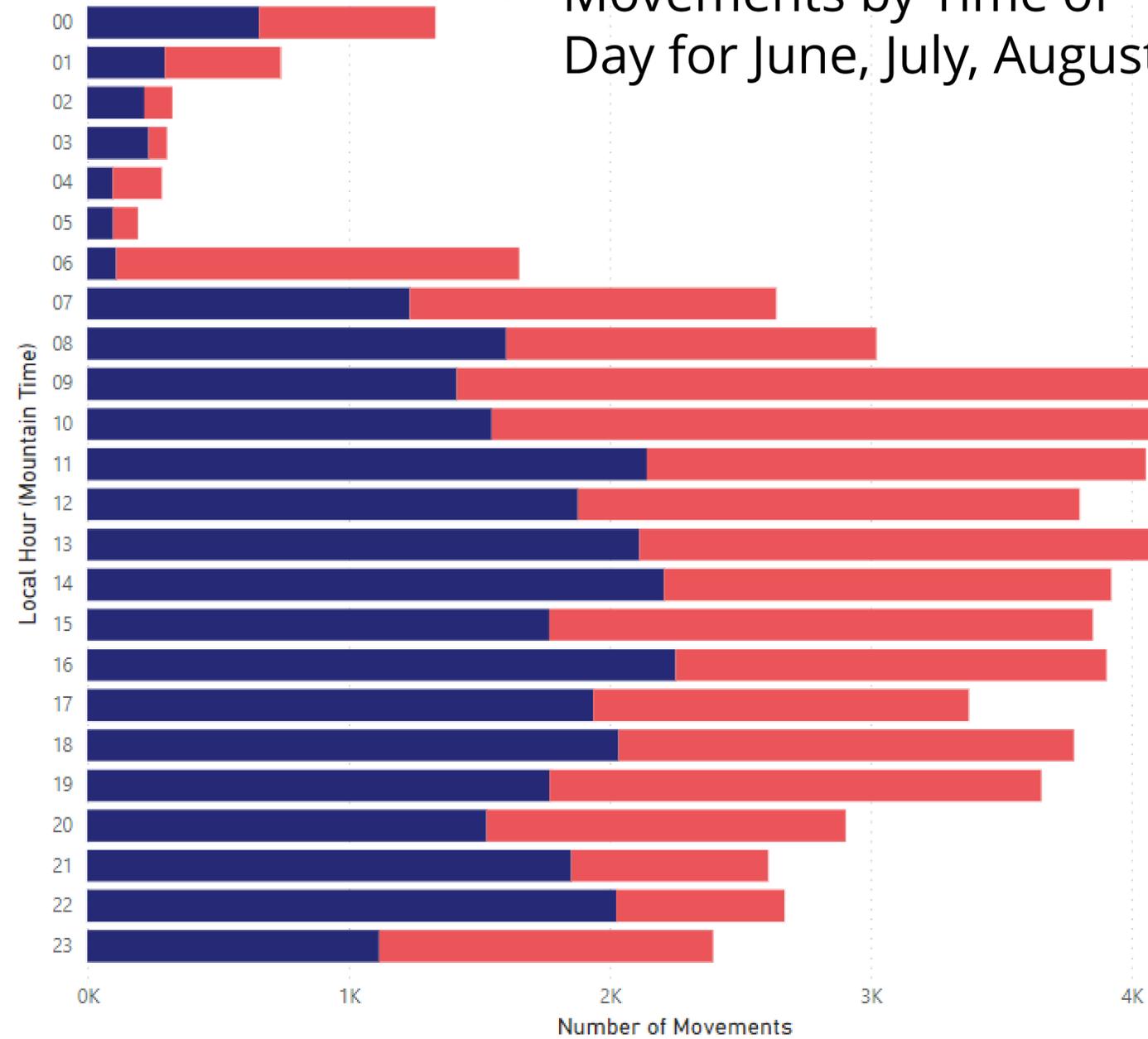
- Communities with most households raising concerns are Mayland Heights / Vista Heights, Marlborough, Rundle, Dover, Beddington Heights, Oakridge (90% of concerns for preceding 90 days, N = 71 to 94 per months)
- Concerns associated with southbound departures and particularly when operations require concentration of use one of the parallel runways due to construction or maintenance closures.
- Concerns (filed and communicated by community association representatives) are related to night-time movements.



Aircraft Noise Management

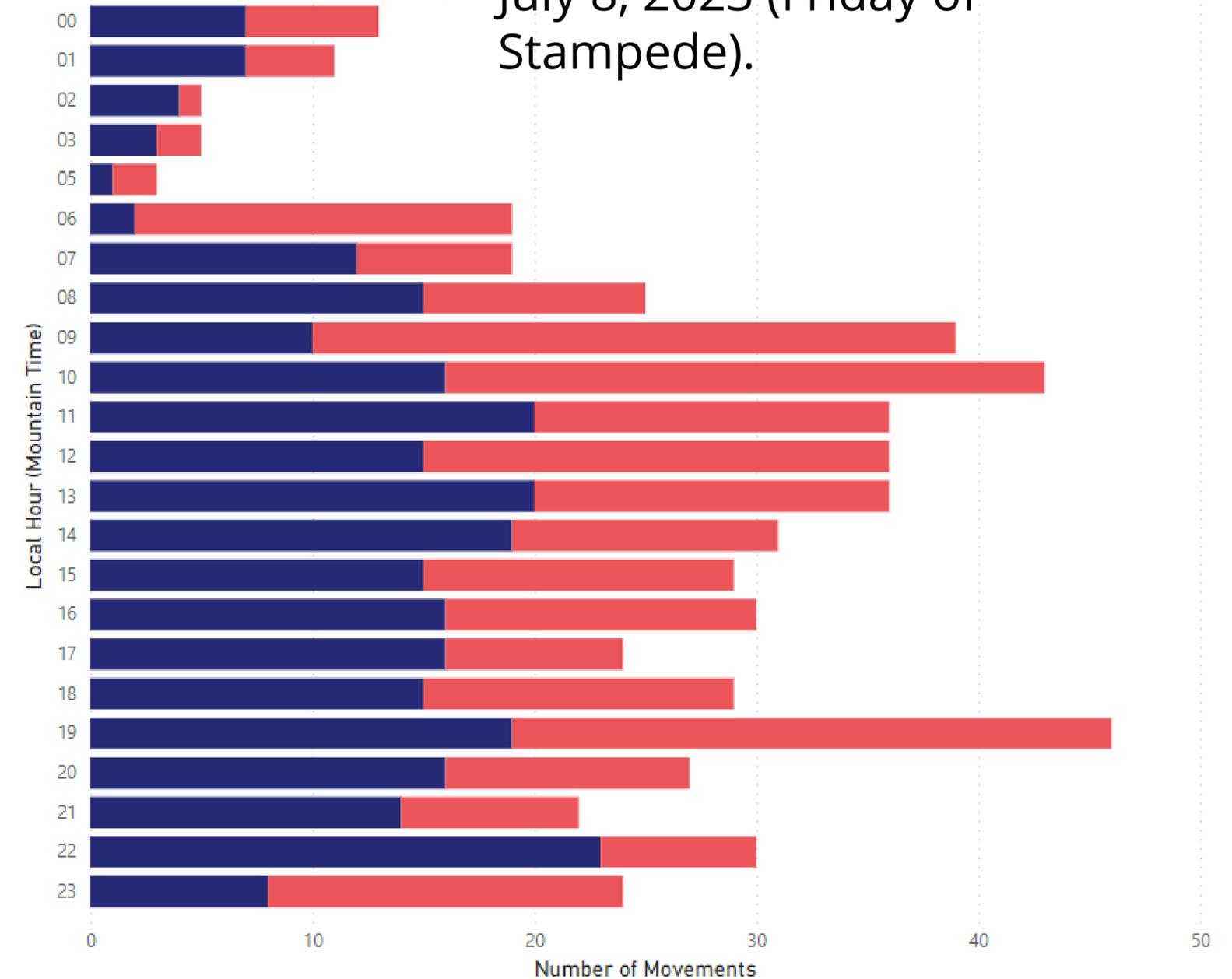
Operation ● Arrivals ● Departures

- Movements by Time of Day for June, July, August.



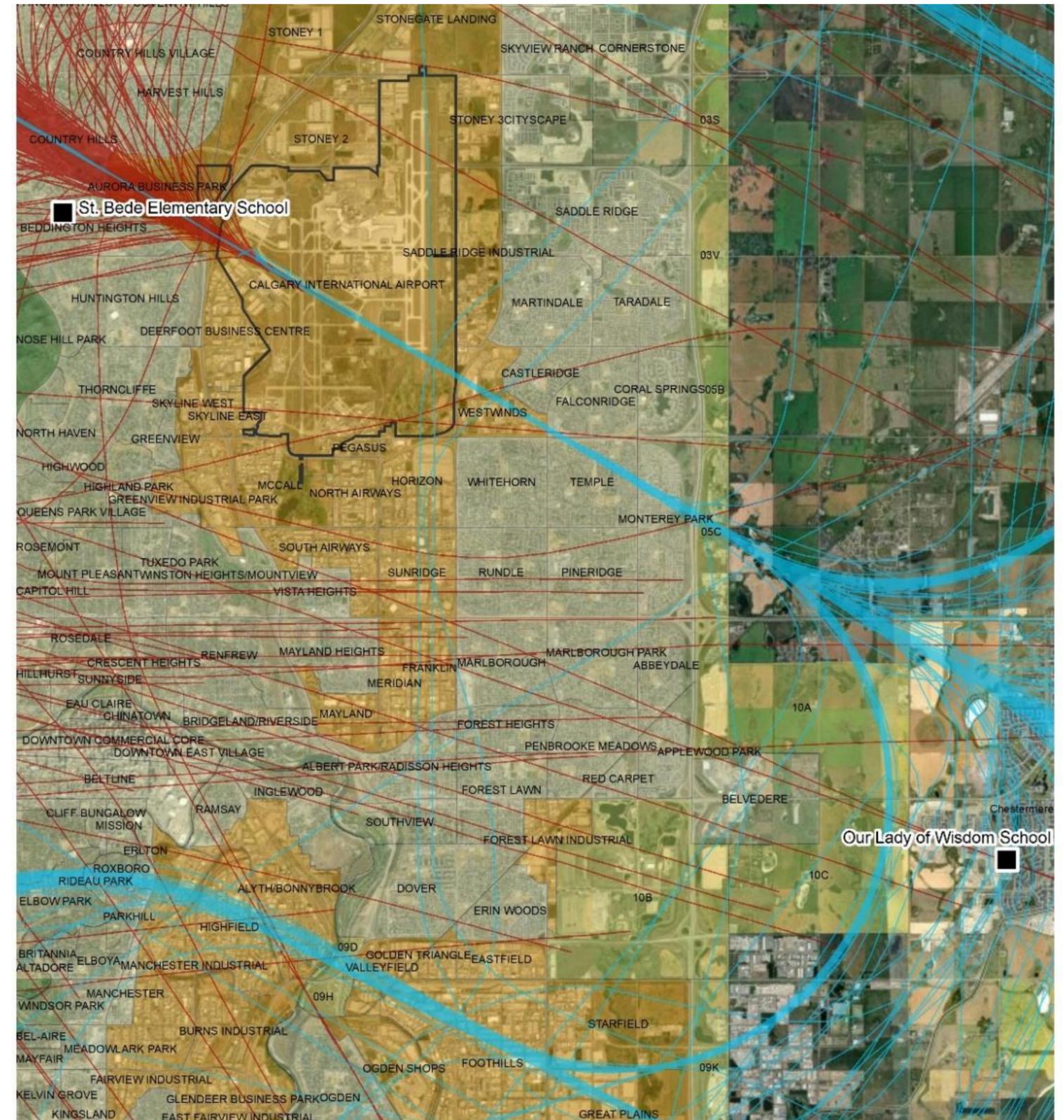
Operation ● Arrivals ● Departures

- July 8, 2023 (Friday of Stampede).



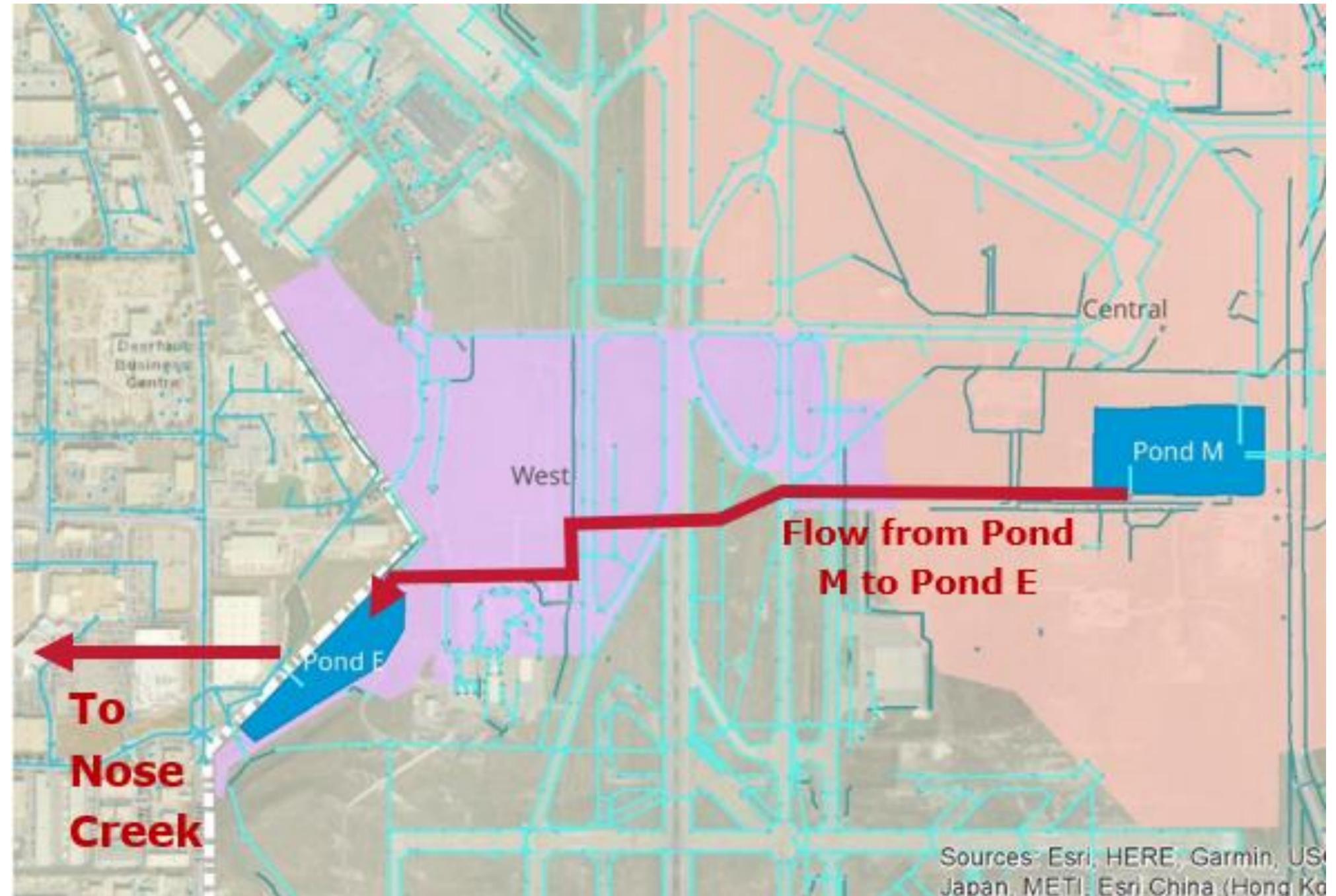
West Runway Rehabilitation Project Noise Monitoring

- Contracted HGC Engineering and EnviroSuite to evaluate locations and develop an updated methodology for NMT deployment.
- 10 locations initially investigated using field measurements of ambient and aircraft noise.
- Locations should be able to register a minimum of 10 dBA difference between overflights and ambient sound pressure levels.
- This means it is not always possible to place the NMT right below flight corridors.
- Initial deployment of new NMTs will begin in October.



Stormwater Ponds & Odours

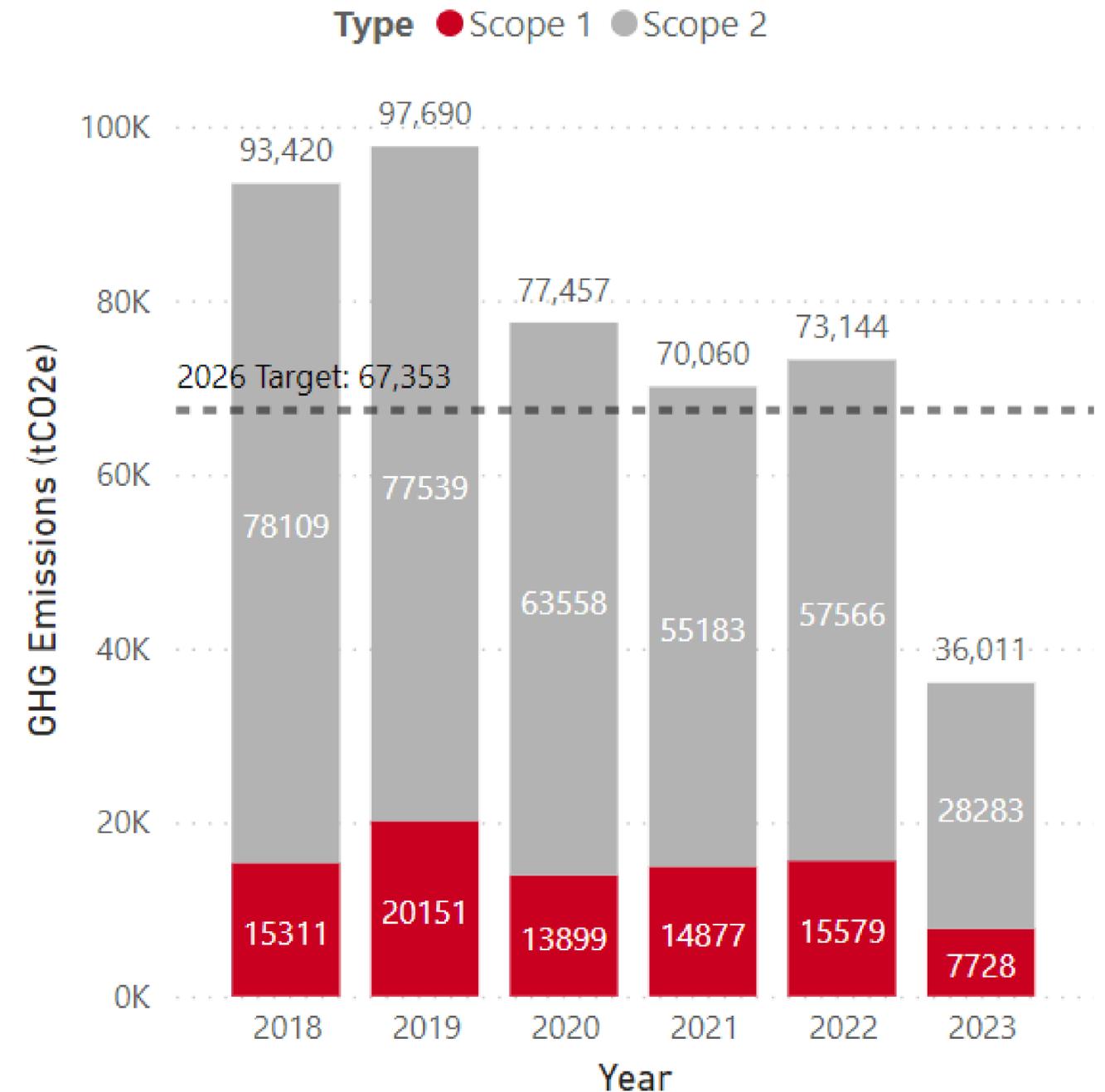
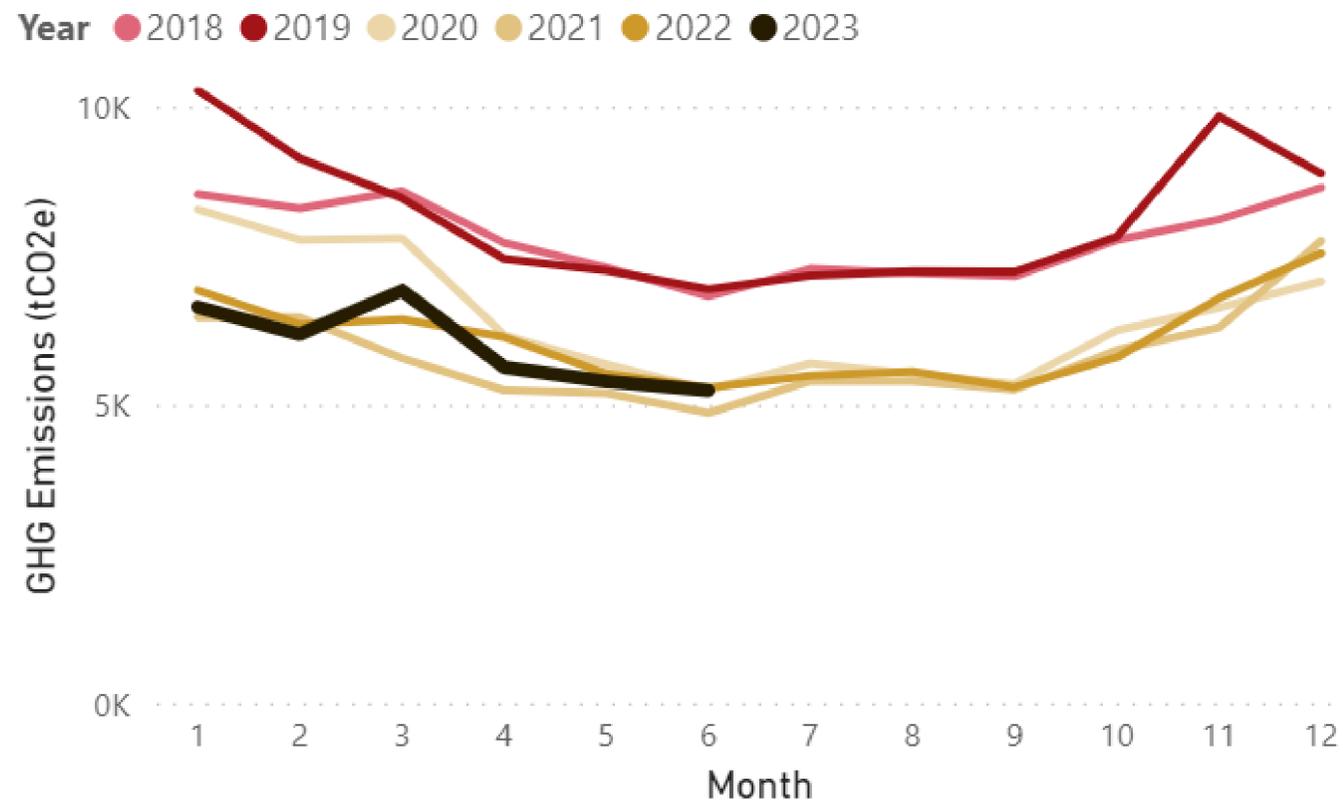
- Hot and dry weather conditions have resulted in heavy odours requiring implementation of contingency water treatment.
- Source is naturally occurring infiltration of groundwater into the drainage system, primarily around Pond M... similar effect as a sulphur spring.
- Planned maintenance work is ongoing as in an engineering study to develop design for a solution to address the root cause.



Sustainability Strategy – Emission KPI Update

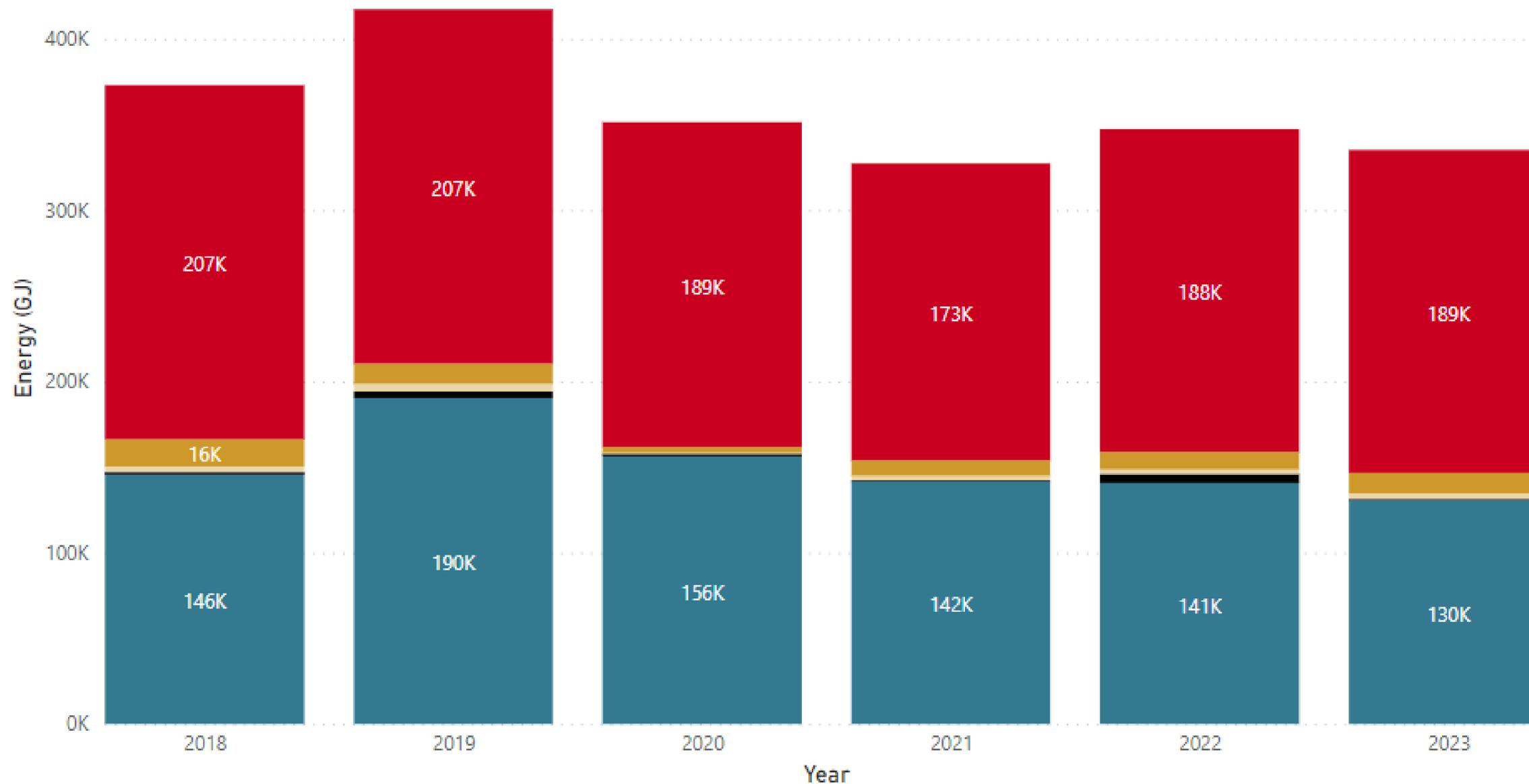
Trends

- Trending toward similar gross emissions as 2020-2022
- 2023 facilities usage is comparable to 2019
- Cooler than normal January and March
- Much warmer than normal May and June



Sustainability Strategy – Emission KPI Update

Category ● Natrual Gas (GJ) ● Generator (L diesel) ● Fleet fuel (L gasoline) ● Fleet fuel (L diesel) ● Electricity (kWh)



Insights from energy use for Jan-Jun

- 2023 showed lowest natural gas consumption since 2018
- Electricity lower than 2018 and 2019, but on-par with 2020-2022.
- Limited generator use in 2023.
- Comparable fleet fuel usage to previous years

NET-ZERO Emissions Roadmap – Decarbonization Actions

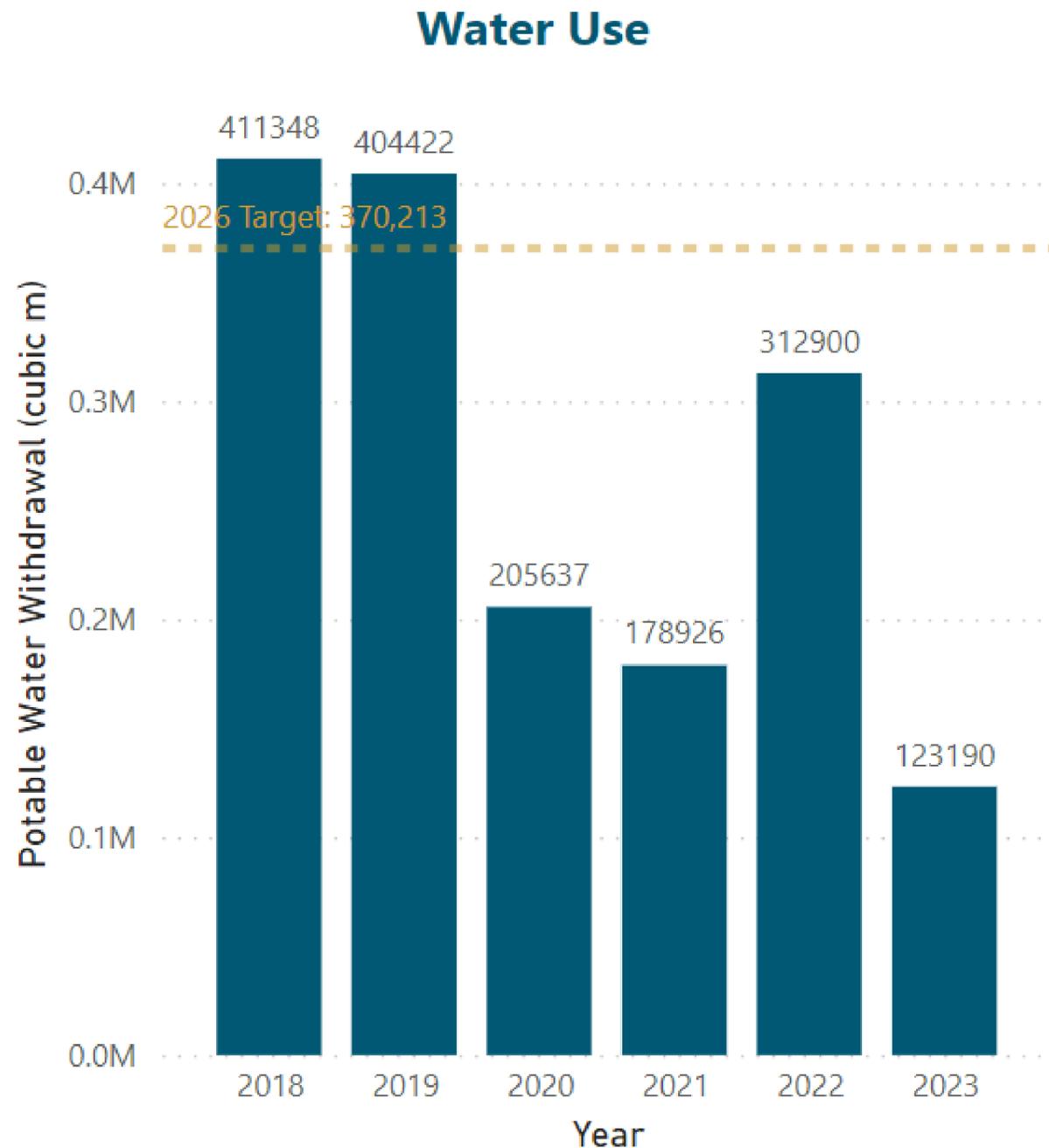
Ongoing work for 2023 /2024

Completed in 2023

Energy Demand Reduction	Facility Energy Retrofits	Distributed Renewable Energy	Fleet Replacement	Scope 3 Emissions
High-level Net Zero Emissions Roadmap (Note: will be seeking board approval in Nov, 2023)				
Partnership with Sofiac for detailed feasibility study and ideally central plant retrofit				
	Deep geothermal assessment			
Geo-exchange system review partnership with U of C				
			Hydrogen Vehicle Pilot Project RFP	
				Expansion of EV charging
				Scope 3 Inventory
Zero-Carbon Energy Hub planning & anchor project development				

Airport Carbon Accreditation: Verifying against Level 1 in 2023; Targeting Level 3 in 2024

Sustainability Strategy – Water KPI Update

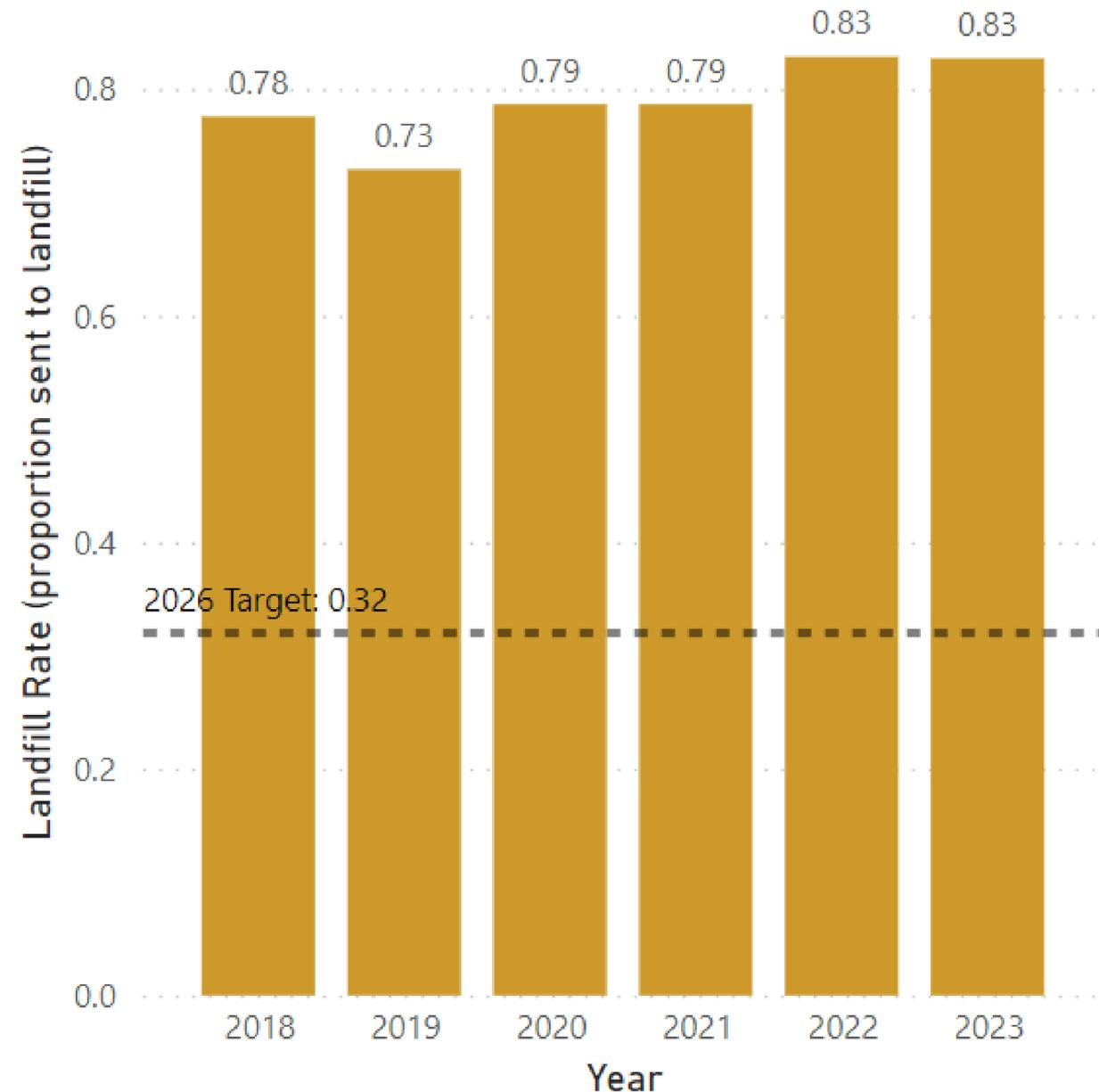


Period	Water
	<i>m³ / 100,000 pax</i>
2018	2,453
2019	2,351
2020	3,864
2021	3,028
2022	2,165
2023 (Jan-Jun only)	1,451

- Reduction of 3,600 to 17,000m³/month compared to 2019.
- Total consumption is comparable to 2022
- Per-PAX consumption dropped by 33% compared to 2022.
- Reductions attributed to faucet aerator replacement.
- Additional sub-meters and analysis of consumption by meter is required for further insights.

Sustainability Strategy – Waste KPI Update

Waste Generation



Terminal Waste Only (incl. airline waste)				
Year	Compost	Recycling	Landfill Waste	Diversion from Landfill
	<i>tonnes / 100,000 pax</i>			
2018	1.66	2.34	16.61	24%
2019	2.22	2.60	15.28	32%
2020	2.77	3.27	19.78	31%
2021	1.72	2.70	19.08	23%
2022	1.11	1.93	14.81	21%
2023 (Jan - Jun only)	1.02	3.02	14.67	28%

- Overall waste diversion rates remain low (approx. 17%).
- Diversion for terminal waste is improved from 2022, but below 2019-2020 intensities per-PAX
- Compost intensities per-PAX are lower than expected

Zero-Waste Strategy



Circular Waste Management Systems

- Incorporate Circular Economy principals into corporate procurement decisions.
- Waste management and zero-waste packaging policies & standards targeting tenants and service providers.



Waste Collection Processes and Infrastructure

- Improve public-facing and airside waste collection bins and signage.
- Optimize back-of-house sorting processes and technologies for public waste.
- Process improvements for tenant waste collection.



Stakeholder Engagement

- Improve public engagement in waste sorting and diversion.
- Improve tenant and airline engagement in waste sorting and diversion.
- Foster partnerships with local organizations, community groups and government bodies.



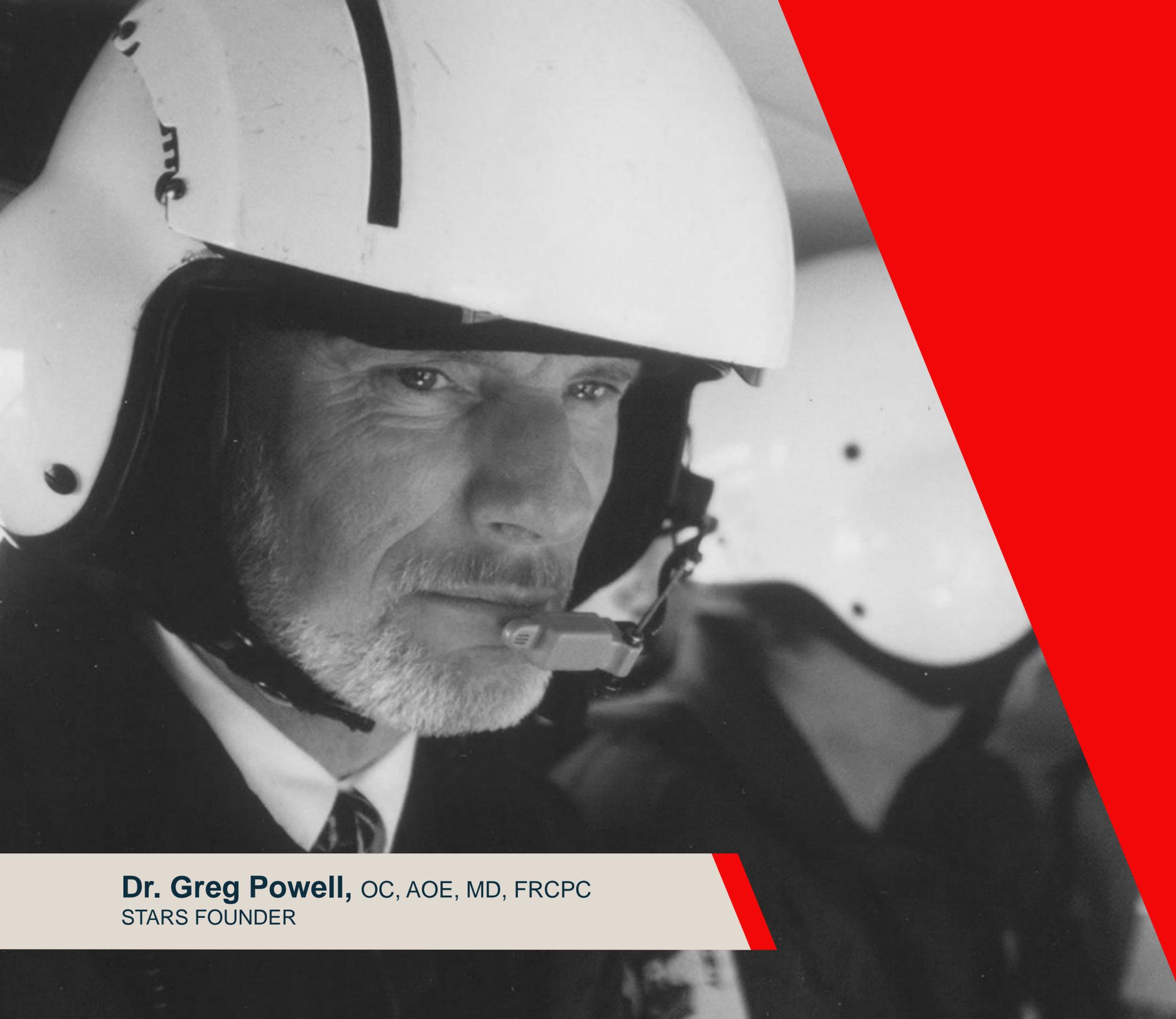
Reporting, Governance and Culture

- Improve data collection and monitoring.
- Research and pilot testing of innovative waste management technologies and best. Practices.
- Foster a culture of continuous improvement and celebrate achievements.



STARS®





Critical care, anywhere. Since 1985.

It all began when a pregnant woman from a rural community died from blood loss, leaving a father alone with their newborn. For STARS' founders, her death was one too many. Something had to be done.

As we've grown and evolved, STARS has never wavered from our mission. Fundamentally we believe that where you live – or work, play and travel – shouldn't impact your chance of survival.

Dr. Greg Powell, OC, AOE, MD, FRCPC
STARS FOUNDER

Critical care, anywhere.

IT'S NEVER TOO FAR

There are some words you never want to hear in a medical crisis.

Too far away.
Too far to reach.
Too far gone.

STARS was born from the conviction that no one should go without the care that could save their life.

Critical care anywhere is more than our vision. It's who we are. Because when it comes to the next patient who needs us, it's never too far.



 STARS®

WHERE WE PROVIDE CARE



 TYPICAL SERVICE AREA

 EXTENDED SERVICE AREA

 BASE LOCATION

When physicians determine a helicopter is the best method of transport, **STARS** is there for patients across Western Canada.

Our typical service area includes communities we can reach within approx. 1 hour 20 minutes flying time of each of our six bases.* Access to fuel supplies throughout Western Canada can extend our service area even further when required.

*As determined by the fuel range of our H145 aircraft under favourable daytime weather conditions.

STARS[®]



STARS Emergency Link Centre®

The STARS Emergency Link Centre (ELC) is our 24-hour emergency medical communications centre.

Staffed by our team of highly-skilled emergency communications specialists, the STARS ELC acts as a logistics hub. It's here we oversee STARS helicopter missions, coordinate transport and care for critically ill and injured patients and facilitate virtual medical consultations with our team of critical care experts.

STARS Transport Physicians (TP)

STARS transport physicians are on staff 24 hours a day, seven days a week to coordinate critical care to patients in all three provinces where we operate.

Each transport physician is a critical care specialist. They know first hand the unique challenges inherent in pre-hospital transport and medicine and participate in delivering care in-person, on board the helicopter, via radio/phone through the STARS ELC and through STARS Critical Care Virtual Consults.





SHAPING THE FUTURE OF CRITICAL CARE.

Technology and medical care are always evolving. We are innovators who find and create new opportunities to save lives. We educate, consult, and share our expertise with others who can benefit, with the goal of advancing care for all. Critical care will look very different in the future than it does today. We're flexible, capable and focused on shaping the future.





Year in review 2022/23



 STARS EMERGENCY
LINK CENTRE

 MISSIONS

 FUNDING

 INCIDENT TYPES
STARS RESPONDS TO A VARIETY
OF CRITICAL CARE CALLS

36,390

EMERGENCY REQUESTS HANDLED

3,365

YEARLY MISSIONS

\$10M

APPROXIMATE ANNUAL
COST PER BASE

99

AVERAGE EMERGENCY
REQUESTS A DAY

1,650 **1,018** **697**
AB SK MB

34,853

ANNUAL DONORS

-  CARDIAC **18.2%**
-  ENVIRONMENTAL **0.14%**
-  OTHER MEDICAL **20.5%**
-  PULMONARY **12%**
-  OBSTETRICAL **1.3%**
-  NEUROLOGICAL **10.6%**
-  OTHER TRAUMA **19.2%**
-  VEHICLE INCIDENT **17.8%**

55K+

MISSIONS TO DATE SINCE 1985

9

DAILY AVERAGE MISSIONS





YOUR BEST HOPE IN A WORST-CASE SCENARIO.

Most patients will never need us. Our job is to always be ready for the ones who do. We specialize in the most acute, life-threatening illnesses and injuries. Our team's advanced, focused expertise in critical care makes us a vital resource for doctors and other emergency responders. Because what happens in those first moments can be the difference between life and death, or permanent damage and full recovery.

THANK YOU



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MEMBER ROUND-TABLE

- **FUTURE TOPIC IDEAS**
- **VIRTUAL VS IN-PERSON**
- **NEXT MEETING: DECEMBER**

21